November 7, 1931 Textile World Vol. LXXX, No. 19

Published every Saturday by Bragdon, Lord & Nagle Company,
Division of McGraw-Hill Publishing Company, Inc., New York

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Parasites Imperil Romance of Silk

THE silk industry will be in the limelight from Nov. 14 to 21. Although primarily a trade event, Silk Industry Week at Paterson will focus public attention upon that branch of textile manufacture as National Cotton Week and National Wool Week have done in those two divisions.

There is something romantic about the story of silk which quickly captures the imagination. Its production by the lowly silkworm, the part it has played in both legend and fact of history, and its association with luxury and well-being—create for it a popular appeal.

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Undoubtedly the average man or woman, and particularly the latter, visualizes silk manufacture itself as a romantic occupation, quite free from the sordid commercial details of most industrial undertakings.

Unfortunately that is not quite correct. There are commercial details in the industry —and some of them are sordid.

Individualism, in its more sinister aspects, has hampered progress in silk goods manufacturing and finishing, probably to a greater extent than in other branches of textile production. It is alarmingly easy to start a silk mill. The performance of many of the functions can be arranged on a commission basis. About all a prospective industrialist needs is the inclination, a little cash or credit, and the services of a technical man.

The result, of course, has been extreme decentralization—and a disastrously high rate of mortality among companies in the industry.

These comments are not intended to be critical of small enterprises, as such. They can contribute, and have contributed in many cases, as much to the soundness of the industry as can the large units. But the comments are directed against the small operator who enters silk manufacture with no knowledge of its technique or its requirements, who attempts to reap a temporary profit by cutting prices and taking the differential out of quality, and who thereby sets a market pace which legitimate operators must follow —or shut down.

Not all the price-cutting is done by these parasites, of course. Through ignorance of costs, or through unsound thought processes, reputable firms often contribute to the chaos. But, to a great extent, the market degeneration is started by companies which have no sense of permanency or of pride.

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It is admittedly difficult to fight this competition. The immediate impulse is to meet a price, rather than to close a plant. Then, of course, quality must suffer in proportion. In consequence, a generally bad situation becomes that much worse.

There is no answer other than the development of individual resistance. The industry has a strong trade association which has aggressively initiated several constructive moves, such as the balance of production with demand, the trade-wide survey of production and distribution trends, and the checking of design piracy. Real progress is being made in these and other directions. But this progress cannot be converted into profits if manufacturers themselves follow the lead of price and quality cutters.

It is to be hoped that the enthusiasm engendered by Silk Industry Week will foster in turn a new consciousness of this evil. If so, the efforts of the promoters will have been doubly effective—and the story of silk will regain its rightful romance.

The Week in Textiles

as Reflected in This Issue

General

Research Meeting

Annual meeting of U. S. Institute for Textile Research was held on Wednesday and heard stimulating talk by Dr. C. H. Herty. *(page 49)*

Labor Situation

The labor situation in New England and elsewhere is briefly surveyed and analyzed. Wage reductions and strikes are not the only interesting items on the horizon. *(page 50)*

Loomfixers' Knots

Proficiency in knot tying is cited as one of the most important prerequisites of a good loomfixer. The more commonly used knots are discussed, and the preferred method of tying them is described and illustrated. *(page 52)*

Cotton

Appeals for Jute Tariff

An appeal to cotton manufacturers throughout the country to exercise their influence to an effort to obtain tariff protection for American cotton against jute and jute products has been issued by Cason J. Callaway, president, American Cotton Manufacturers Association, in a letter to the association membership. *(page 59)*

Cotton Recovery Called Premature

There is no reason to expect any rise in cotton unless commodities in general rise, says Dr. L. H. Haney in this week's TEXTILE WORLD Analyst. Inflationary developments in England and elsewhere, he comments, have caused some advance in terms of foreign currencies. The recent recovery, he adds, is premature if it is discounting inflation. *(page 71)*

Cotton May Ease Again

Cotton showed itself reactionary after rising again following last week's brief set-back. Market observers were not so convinced that strength lies in the immediate future but rather that sales in the South before the year end would weaken the market even though the longer future has a more bullish tinge than it had two weeks ago. *(page 75)*

Yarn Movement Speeds Up

Yarns have been fairly active as buyers covered needs to the end of the year. They were sold on the idea that lower prices were unlikely and higher prices possible. *(page 77)*

Mill Men Firmer

Cotton goods manufacturers have turned a psychological milepost and are better disposed to get fair values for their product than they were in early October when the market dipped considerably below cost. *(page 79)*

Wool

National Wool Week Opens!

Elaborate demonstration in Philadelphia, including a parade, and a dinner at the Waldorf-Astoria Hotel, New York, at which many notables will speak, are the highlight events of today's program (Nov. 7), which marks the opening of National Wool Week. *(page 51)*

Yarns on Trial

Worsted yarns are still passing through a period of trial. Buyers are trying to place business below the market, but spinners are firmer than they were last week and there are examples of orders coming in at full asking figures. *(page 75)*

Wool Dealers Puzzled

Wool dealers are still puzzled at the situation their industry faces. The Lawrence strike might be expected to cause a backing up of raw material but such is not in evidence. Despite statistical soundness the industry generally is neglecting the market. *(page 77)*

Price-Cutting Hurts Fabrics

Price-cutting has slowed up sales of spring wool and worsted fabrics, as buyers find difficulty in learning true levels. *(page 79)*

Knitting

New Hosiery Length Standards

Commercial hosiery length standards, which it is hoped may eliminate current confusion among both knitters and consumers, were adopted at a conference called by the Bureau of Standards, and held in Philadelphia. *(page 55)*

H. R. Lhowe Heads Outerwear

Harold R. Lhowe, long time counsel to the National Knitted Outerwear Association, and one of the pioneers in that organization, was elected managing director, succeeding Ellery B. Gordon, resigned, at a meeting of officers in New York. *(page 58)*

Holes in Silk Hosiery

The development of holes in silk hosiery resembling the attacks of some chemical are traced to the appetite of a mouse. *(page 68)*

Oil Streaks in Hose

Improper methods of oiling the cylinders and needles of hosiery machines may often be the cause of oily streaks in the finished product. The

The Textile Outlook

MANY economists shrink from considering any rapid recovery from current low levels of business. Artificial inflation they argue must be followed by a relapse to greater depths of deflation which might be avoided by a gradual convalescence in which with slow steps confidence is rebuilt and business "stabilized." One wonders whether the latter sort of progress is ever possible. When cotton came to the point when lower figures were very unlikely, in other words when it was "stabilized," it offered fertile field for speculative or investment buying which pushed prices up. Now after a rise of perhaps 1½c. from bottom, traders grow doubtful of the immediate future and expect selling pressure from the South or profit taking. The rise has helped the sale of yarns and goods but the movement has slowed as cotton's further advance became doubtful. Both yarns and goods should rightly outrun cotton in order to get back the margin of profit which has lately been turned into margin of loss by overzealous competition. Wool and wool goods are marking time. Silk goods are more optimistic.

thinner the lubricant, the greater is the tendency for staining. *(page 69)*

Defer Buying Holiday Hosiery

Delay in placing Christmas hosiery orders is so pronounced that mills look for congestion and an oversold condition, when buying does come. *(page 81)*

Rayon Underwear Prices Up

Reflecting the advance in 150 denier rayon, knitters have raised the prices of certain 1932 underwear lines. *(page 81)*

Swimsuit Sales Backward

Sales of 1932 swimsuits are below this time last year, but prices are steady and market looks for early improvement. *(page 81)*

Silk

Host to Silk Industry

Paterson, N. J., will be the center of attention in the silk industry, beginning next Saturday, when "Silk Industry Week" will open there, with Silk Institute meeting at Alexander Hamilton Hotel, convening at 10 a.m., and Silk Machinery Exposition opening in the evening at the Paterson Armory. Exposition continues daily until Nov. 21. Other events are Silk Convention, Nov. 18-19, and Silk Travelers Association dinner, Nov. 25, both at the Hamilton. *(page 40)*

Silk Show Guide

A list of exhibitors and the products which they will display at the Silk Machinery Show in Paterson has been compiled as a guide to those who plan to attend. *(page 41)*

What 1931 Means to Silk Trade

While far from satisfactory, the current year has brought some encouragement to certain divisions of the silk industry. Price weakness and buyer hesitancy were handicaps, but curtailment of broadsilk output helped materially during third quarter. *(page 45)*

Throwing-Equipment Obsolescence

A study made of recent improvements in equipment for soaking, winding, doubling, twisting, setting, redrawing, and reeling silk and rayon discloses many new machine parts which throwsters can profitably adopt. *(page 46)*

Shuttle for Dupioni Filling

The spindle-type shuttle is recommended for use with Dupioni filling. Advantages and disadvantages of various shuttles for this type of work are discussed. *(page 68)*

Kinks in Crepe Filling

There are three basic causes for the development of pin-head kinks in crepe yarn. Lack of pliability in the thread is probably the most common cause of this defect. A formula for treating such yarn is suggested. *(page 68)*

Silk Faces Uncertain November

Raw silk enters November in uncertain mood, but low mill stocks are expected to spur coverage by weavers once spring silks start moving. *(page 77)*

Yarns Continue Quiet

Throwsters get fair call from hosiery mills, but conditions generally are quiet. Spinners are still waiting opening of spring yarn season. *(page 77)*

Important Fabric Showings

Opening of 1932 spring print lines by leading mills has stirred interest of buyers, hitherto indifferent. *(page 79)*

Broadsilk Quality Control Plan

Adoption of a method of preventing widespread use in low-price garments of broadsilk prints initially sold to quality trade, is announced by Cheney Bros. *(page 87)*

Rayon

Luster on Messaline

The combined effect of heat and pressure at the calender rolls controls the development of different degrees of luster on messaline. Cut filling results from excessive pressure at the calender. *(page 69)*

Fine lace product made of Durene yarns and fashioned by Jay Thorpe into wedding dress which has been featured in style shows.

Good Call for Rayon Yarns

Despite holiday and price revisions rayon moves steadily, and outlook is considerably better. All buying is spot. *(page 77)*

Processing

Piece-Goods Dyeing

Demand for quick deliveries has resulted in an enormous growth of the silk piece-dyeing industry. Equipment and methods which facilitate the production of level shades and fast colors on a wide range of fabrics are discussed and a list of suitable dyestuffs is given. *(page 56)*

Peroxide Bleaching

Announcement is made of the development of a new peroxide-bleaching kier of the triple-flow circulation type. A complete description of this machine outlining its advantages and recommending operating procedures is provided. *(page 66)*

Yellow Cast in Satin

The importance of proper boiling-off is emphasized as an important factor in removing throwsters' tint and aiding dye penetration. *(page 69)*

The Business Outlook

PROSPECTS of a general and vigorous upturn in business early next year have been strengthened almost to a certainty by underlying developments during the last month. The devastating process of commodity price deflation appears definitely to have ended as credit expansion sets in in speculative channels and sharp reduction of supplies in some lines looms up for next year. This, together with return of hoarded currency to circulation and cessation of gold exports, has eased the banking strain, lightened the pressure for security liquidation, and put the banks in a better position to support the inevitable re-inflation. The coming session of Congress is certain to supply further inflationary stimulus in all its 57 varieties by special financial relief measures. The British elections have opened the way to improvement in England, and France will obviously be obliged to offer financial first-aid to Germany before February. Year-end, new-model automotive activity and belated railroad buying have given some unseasonal stimulus to steel production. October residential building, and current carloadings show encouraging strength.—*The Business Week.*

Paterson Will Be Host to Trade in "Silk Industry Week"

PATERSON, N. J. is all ready to play host to a substantial portion of the silk industry next Saturday, when two major events, the Silk Machinery Show and the Silk Institute meeting, will usher in the much-heralded "Silk Industry Week." Interest in the "week," which will keep the attention of the silk trade focused upon Paterson until the closing of the machinery exposition, the following Saturday evening, Nov. 21, has grown steadily since the project was first conceived. John J. Fitzgerald, director of the Paterson Chamber of Commerce who is managing "Silk Industry Week" in conjunction with three committees of textile dealers, estimates that the event will attract upwards of 100,000 visitors to New Jersey's silk city. As the detailed programs of the week were being completed, Mr. Fitzgerald received expressions of good wishes for "Silk Industry Week" from many public men, including President Hoover, Franklin Simon, president of the Garment Retailers of America, and numerous others.

The Silk Institute meeting is the opening event; this session will be called to order at the Alexander Hamilton Hotel, Paterson, at 10 a.m., next Saturday, and most of the day will be devoted to consideration of outstanding silk industry problems. The Silk Machinery Show opens at the Fifth Regiment Armory, Paterson, at 7:30 p.m., that evening, and will continue all week, 1 p.m. to 10:30 p.m. This exposition will feature the latest time-savers and money-savers in textile equipment, and will give an intelligent picture of the last word in mechanical efficiency for textile manufacture.

The third event of the week is the National Silk Convention which will be held at the Alexander Hamilton Hotel, Wednesday and Thursday, Nov. 18-19. The Silk Travelers' Association will hold a dinner-meeting at the hotel, Wednesday evening.

The highlight of "Silk Industry Week," from a fashion point of view will be the Martha Washington Style Show which will be a daily feature at the machinery exposition in the armory. Following a suggestion made by Franklin Simon that because the George Washington bi-centennial occurs in 1932, the stylists and manufacturers should develop the Martha Washington theme of dress, those in charge of the Paterson style show decided to make Martha Washington dress the keynote.

PROGRAM, SILK INSTITUTE

Saturday, Nov. 14, at Alexander Hamilton Hotel, Paterson, N. J.

Welcoming addresses by Mayor John V. Hinchliffe, and President James Wilson, Chamber of Commerce.

"The Disposal of Industrial Wastes from the Silk Dyeing Industries in Paterson"—Almon L. Fales, Metcalf & Eddy.

Statement on Commercial Arbitration—Representative from American Arbitration Association.

Debate—"Has Commercial Arbitration Proven a Success?"—Addison P. Rosenkrans and John O. Benson, attorneys.

"Cost Accounting For Textiles"—T. H. Sanders, professor of Accounting, Harvard University, also president of National Association of Cost Accountants.

"Government's Position on the Question of Obsolescence"—Joseph K. Moyer, representative, Internal Revenue Department.

Other speakers include: Rudolph Muller, instructor of textiles, Paterson Vocational School; Arthur Booth, instructor of Chemistry & Dyeing, Paterson Vocational School; and George N. Sidman, manager, U. S. Testing Co. These men will discuss the following subjects in their papers:

"Can an important industry succeed without technical education available?"

"How and where should a research bureau be set up to study costs, standards, ethics and the like?"

"Are there sufficient research resources already available for the Paterson Silk Industry?"

"Would a local industry as large and as important as the Paterson Silk Industry be better with or without a code of ethics or set of business or manufacturing standards?"

"Can harmony be effected in an industry that is broken up into processing groups?"

"The value of occasional meetings in the silk industry."

Other scheduled addresses follow:

"Is it possible to stabilize employment in a more or less seasonal industry?"—Col. Charles R. Blunt, Commissioner of Labor for N. J.

"How can the federal, state and municipal employment bureau function to the best advantage for the Paterson silk district?"—Representative from Secretary of Labor Doak's office.

"How can the regularization of employment be brought about in an industry of 800 units and 25,000 employees?"—William Green, president, American Federation of Labor (tentative).

"Factoring"—Louis Hubshman, H. B. Hubshman & Bro., commission factors.

"Banking Credits"—Joseph F. Hammond, vice-president, Citizens Trust Co.

"Organizing a Business for Profit"—Forrest S. Dayton, Jno. Dunlop's Sons, Inc.

PROGRAM, NATIONAL SILK CONVENTION

Alexander Hamilton Hotel, Paterson, N. J.

Wednesday, Nov. 18

Welcoming addresses by Mayor John V. Hinchliffe and President James Wilson of the Chamber of Commerce.

"Popularization of Silks in the United States"—representative of Raw Silk Association of Japan.

Trade Abuses (Buyer, Seller and Manufacturer)—Thos. B. Hill, president, Silk Association of America.

Thursday, Nov. 19

"Vocational Education in Textile Trades"—Wesley J. O'Leary, Assistant Commissioner of Education, N. J., Department of Public Instruction.

"Use of Art in the Industrial Field"—Director Alon Bement, The Art Center.

"Standards in the Textile Industry"—L. R. Gilbert, Division of Trade Standards, Bureau of Standards, Department of Commerce.

Luncheon Sessions, Wednesday, Nov. 18

Raw and Thrown Silk Problems—In charge of U. S. Testing Co., Inc.

Distribution Problems. "Marketing Silk, To Other Manufacturers and To Retailers."—Francis T. Lyons, Sr., vice-president, Commercial Factors Corp.

Dyeing Problems. "The Value of Cooperation as shown by the Standard Color Card Association"—Mrs. Margaret Hayden Rorke, Textile Color Card Association.

Luncheon Sessions, Thursday, Nov. 19

Legislation, Misbranding and Registration. "The Need of a Vestal Bill to Protect Designs"—Congressman Albert H. Vestal, Indiana. "The Tariff and Other Legislation"—Representative from Design Protective Association.

Credits. "Are Manufacturers Arriving at Their Costs Correctly?"—Clyde W. Phelps, Department of Economics, Department of Commerce.

Taxation. Franklin S. Edmonds, member of committee on state and local taxation, U. S. Chamber of Commerce. Chairman of Committee on Reciprocity of the National Tax Association and former Pennsylvania Tax Commissioner. Dr. Harley L. Lutz, Princeton University, Director, Committee for Investigation of County and Municipal Taxation and Expenditures of New Jersey.

Fifth Regiment Armory, Paterson, N. J.

TEXTILE WORLD'S GUIDE *to National Silk Machinery Exposition*

A LIST of exhibitors with the products which they are to show at the National Silk Machinery Exposition, Fifth Regiment Armory, Paterson, N. J., Nov. 14 to 21, is given on this and following pages. The booth numbers may be used in conjunction with the floor plan presented on page 42 in order to locate any particular exhibit in which the visitor may be interested. The abbreviation "Rep." is used in the following paragraphs to indicate the company representatives in attendance. A list of textile concerns and their booth numbers will be given in our next week's issue.

Aetna Felt Co., New York. Booths 71, 73. Featuring felt rubbing mediums, endless sleeves, and Palmer dryer blankets. Rep.: H. P. Dederick.

American Hard Rubber Co., New York. Booths 7, 9. Hard-rubber lined and covered steel tanks and equipment, hard-rubber lined pumps, hard-rubber pumps, hard-rubber lined pipe and fittings, and hard-rubber pipe and fittings. Featuring hard-rubber lined tanks, type "WEM" hard-rubber lined centrifugal pumps, and hard-rubber lined Crane gate valves. Rep.: C. R. Ackerman, H. S. Brady, D. D. Wilkins.

American Moistening Co., Providence, R. I. Booth 133. Amtex humidifier, Amco self-cleaning atomizers, Amco humidity control, (air and electric), Ideal humidifier, (senior type). Featuring Amtex small-capacity humidifier with automatic humidity control especially adapted for use in silk vaults. Rep.: W. M. Trafton, F. J. Orme, L. Chandler Brightman, W. P. Woodcock.

American Silk Journal, New York. Booth 70. Textile publications.

Armour & Co., Chicago. Booth 85. Tallow chips and powdered soap; olive-oil chips and powder; bar soap. Rep.:

How to Reach the Armory

The Armory is centrally located in Paterson, and can be reached from the Erie R.R. Station by a 3-min. walk east on Market St. The Alexander Hamilton Hotel is a 2-min. walk west from the station. Silk Institute meeting at 10 a.m. Sat., Nov. 14, and National Silk Convention on Wednesday and Thursday, Nov. 18 and 19, are to be held at the Alexander Hamilton. Machinery Exposition is at the Armory. The show will be open from 7 to 10:30 p.m., Saturday, Nov. 14, and from 1 p.m. to 10:30 daily from Monday, Nov. 16, to Saturday, Nov. 21, inclusive.

T. M. Galvin, H. Force, A. E. Barrett, T. S. Wadleigh.

Atlantic Tank Corp., North Bergen, N. J. Booth No. 75, 77. Wooden tanks for use in dyeing industry such as boil-off tanks, jigs, dye becks, water storage and agitating tanks; also various kinds and grades of wood from which tanks can be made, indicating their advantages for particular purposes. **Rep.: E. A.** Herb, G. Q. Decker, J. Esburg, J. H. Heins.

Atlas Refinery, Newark, N. J. Booths **34, 36. Textile** oils and softeners, including Atlasol silk-soaking and silk-finishing oils; soluble, penetrating, rayon, and neats-foot oils, tallow, etc. Featuring a practical demonstration of these materials to show their suitability. Rep.: F. Schroeder, S. Kaas, E. K. Rice, E. T. Lewis, R. W. Brewer, S. H. Herman.

Atwood Machine Co., Stonington, Conn. Booths 51, 53, 55, 57. Silk throwing machinery. Emphasizing improved features on 5B spinners and other machines. Rep.: T. Dewhurst, J. R. Breen, I. R. Rowe.

The Bahnson Co., New York. Booth 136. Type H and Type D humidifiers; featuring new Type H control and special hood. Rep.: R. E. L. Morefield, F. S. Frambach, G. R. Lawson, A. W. Jones.

Bernstein Bros., Inc., Paterson, N. J. Booths 123, 125. Leather belting; Rockwood Pulley Co., flat-belt, short-center drive; S.K.F. ball and roller bearings; hangers and pillow blocks. Featuring Spinner belt and S.K.F. transmission. Rep.: J. Bernstein, B. Bernstein, C. A. Decker, D. W. McAllen.

Bliss Engineering Co., Paterson, N. J. Booth E. Engraved copper rollers for printing on silks. Featuring new multi-color process, using three rollers to obtain innumerable colors and shades of colors; also Pan-Tech engraving. Rep.: J. A. Oakley, L. W. Bliss, M. M. Eaton.

H. W. Butterworth & Sons Co., Philadelphia. Booths 111, 112. Improved three-roll silk calender. Rep.: J. E. Butterworth, DeH. Butterworth, W. H. Lounsbury, W. H. Bell, H. Walker.

Colgate-Palmolive-Peet Co., Chicago, Ill. Booth 37. Textile oils and soaps.

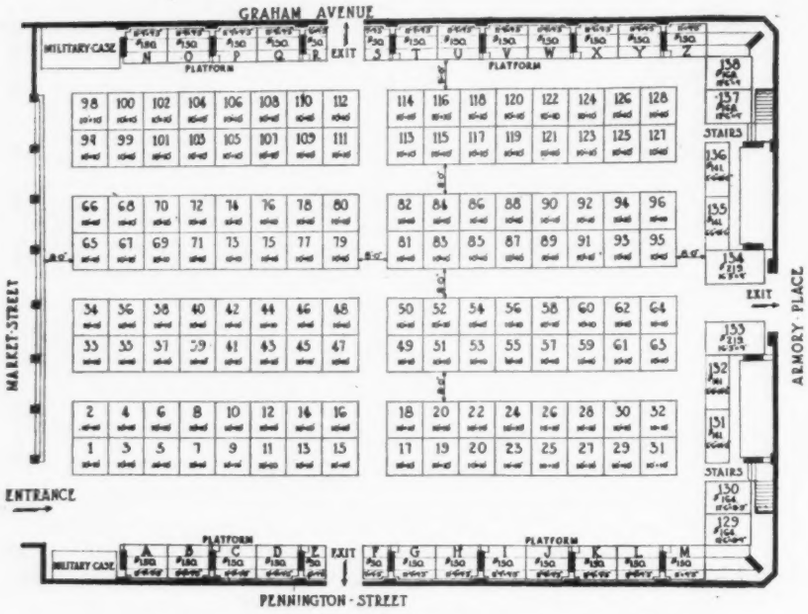
Dana S. Courtney Co., Chicopee, Mass. See Textile Supplies, Inc. Booth 132.

Crompton & Knowles Loom Works, Worcester, Mass. Booths 124, 126, 128. Weaving equipment, featuring super-silk loom, feeler motions, warp-stop motions, automatic let-off, etc. Rep.: W. L. Kinhead, and others.

Crowley's Milk Co., Inc., Paterson, N. J. Booth 137. Ice cream, dairy products, refreshment specialties. Rep.: H. B. Georgia, W. J. Donahue, J. Burns, J. J. Liptak.

Davison Publishing Co., New York. Booth 190. Textile publications.

Joseph Deubel, Clifton, N. J.



Floor plan of the Silk Machinery Exposition

Booth 72. High-pressure rotary pump. Rep.: J. Deubel, J. Schoffield, A. Smith.

Diehl Mfg. Co., Elizabethport, N. J. See P. N. Thorpe & Co. Booth 59.

Draper Corp., Hopedale, Mass. Booths 95, 96. Two S-4 Model silk looms, one with dobby and one with cone harness motion. Featuring Midget electric feeler and Modified Midget feeler with four-pick electric knock-off; No. 1 spring-plunger electric feeler; new type of three-finger driving clutch; No. 5 automatic let-off, equipped with uniform automatic tension device; No. 4 take-up with double pressure roll; yielding reed; Reeves spring check; No. 4 intermittent gear-box motion; No. 3 spring crank arms with Zerk Alemite equipment. Rep.: J. B. Jackson and others.

Foster Machine Co., Westfield, Mass. Booth 114. Model 75, precise-wind silk winding machine equipped for winding silk knitting and weaving yarn on cones and tubes. Featuring winding spindle start, conditioning attachments, and gear-fixed gainer attachments. Rep.: T. E. Connor, D. W. Bridgman, R. W. Ensign.

French Heddle Co., Orangeburg, N. Y. See Textile Supplies, Inc. Booth 132.

Gates-Pfeiffer Engineering Co., New York. Booth 134. Emulsifier designed to take the place of the ordinary soaking tubs and to eliminate the necessity for overnight soaking. Machine is built entirely of Allegheny metal, rendering it resistant to ordinary alkali and acid baths. Rep.: T. P. Gates, A. J. Pfeiffer, G. Walker, Jr.

General Machine Co., Inc., Paterson, N. J. Booths 63, 64. Palmer finishing machine and jigger. Rep.: J. H. Anderson, C. P. Hebenstreit.

General Tank Corp., Kearny, N. J. Booth 132. Standard and special wood tanks used in silk and rayon dyeing and finishing industries; various types of steel tanks suitable for the same purpose, including special coverings for same; specialties used with wood tanks, such as outlets, supports, and improved plans for installation; samples of protective coatings, linings and other specialties, including pitch, monel, and tin, chemical lead-lined works of all descriptions, brass and copper coil work, etc.; demonstrating Linatex, a new uncured-rubber lining. Rep.: G. H. Jefferis, A. J. Troast, and others.

Hakemeyer Machine Co., Paterson, N. J. Booth 88. Automatic let-off for ribbon looms; tool bit-holder; band saw braizer.

Haring & Stephens, Paterson, N. J. Booth 58. Hercules extractors for dry silk for throwsters' winders, dryers, and

Ernest Barber, chairman, Silk Institute

conditioning; open-top extractor with timer and automatic control. Rep.: J. F. Haring, H. H. Stephens, E. W. Nadeau, D. Laurie, A. Priels.

Hinnekens Machine Co., Paterson, N. J. Booth 110. Silk dyeing and finishing equipment.

Hungerford & Terry, Inc., Clayton, N. J. Booth 81. Samples of Inversand and Basex Greensand-base, water-softening zeolites; parts comprising the Hungerford water filter and the Inversand water softener. Featuring new coarse-grain high-capacity zeolites. Rep.: C. Hungerford, C. Hungerford, Jr., S. F. Alling.

International Salt Co., Inc., Scranton, Pa. Booth 129. Isco salt dissolver which can be connected to any water-softening plant and which is designed to give a clear, clean brine. Rep.: A. J. Hulsebosch.

Charles B. Johnson, Paterson, N. J. Booth 24. Booth to be used as reception room. Photographs will be available of the Johnson warp sizer, and arrangements may be made to see this equipment in operation at a local plant. Rep.: C. B. Johnson, W. Johnson, J. Barnes.

Johnson Engineering & Mfg. Co., Wilkes-Barre, Pa. Booth 131. All-metal, Udylite rust-proof bobbin boards, quill boards, cone boards, mill and steaming trucks, bobbin bushings, gears and screw machine parts, cork-covered take-up rolls and iron heads Udylite plated and reconditioned. Rep.: J. E. Johnson.

George E. Kilburn Mfg. Co., Milford, Mass. See Textile Supplies, Inc. Booth 132.

La Favorite Rubber Mfg. Co., Hawthorne, N. J. See Textile Supplies, Inc. Booth 132.

Lestershire Spool & Mfg. Co., Johnson City, N. Y. See Textile Supplies, Inc. Booth 132.

Malina Co. of N. J., Inc., Paterson, N. J. Booth 87. Rayon warp, cops, and cones. Rep.: J. Gruber.

Manhattan Rubber Mfg. Div. of Raybestos-Manhattan, Inc., Passaic, N. J. Booths 82, 84. Rubber products used in the silk industry, including Condor Textyl line; rubber-lined tanks; rubber-covered rolls Condor transmission belts. Featuring circular loom weaving fire hose; Parock oilless bearings, developed for use in color boxes where lubrication is impossible. Rep.: G. E. Knox, A. C. Maskery.

Melliand, New York. Booth 100. Textile publications.

Middlesex Paper Tube Co., Lowell, Mass. See Textile Supplies, Inc. Booth 132.

H. H. Mondon, Inc., Paterson, N. J. Booth 113. Steamship and travel agency.

Featuring vacation cruises. Rep.: H. H. Mondon, D. De Mott.

Morrison Machine Co., Paterson, N. J. Booths 1-6. Standard jig, horizontal extractor, button breaker, special Palmer unit, and tentering machine clips. Motion pictures showing the method of manufacturing the clips, also showing some of the more strategic phases of the Sanforizing process. Rep.: J. L. Morrison, J. R. Morrison, J. C. Morrison, C. H. Ramsey, H. Lacey, H. Hunt, J. Kreeft, J. Fleming.

George A. Myers & Co., Paterson, N. J. Booth 106. Factory supplies, featuring Yale & Towne hoists; Whitman & Barnes—drills and reamers; Adams Cooks Sons — Albany grease; American Asphalt Paint Co.—acid-resisting paint; Walworth Co.—pipe fittings and valves. Rep.: G. F. Myers, J. B.

C. Walter Lotte, chairman, National Silk Convention

Allen, D. F. Probert, J. M. Raeubb, W. Pankow.

National Oil Products Co., Harrison, N. J. Booth 130. Textile oils and their application. Rep.: H. C. Meegan, D. S. Collard, D. L. Potter.

New England Paper Tube Co, Pawtucket, R. I. See Textile Supplies, Inc. Booth 132.

Olive Oil Soap Co., & Wollen Chemical & Supply Co., Paterson, N. J. Booth 38. Textile soap; diversified display of chemicals and their uses. Rep.: B. W. Lehner, J. J. Hart, G. Bennett, S. Kusher, F. Phillips, G. Adamson, T. Carless, A. Wollen.

Onyx Oil & Chemical Co., Jersey City, N. J. Booths 20, 22. Processing and finishing compounds. Samples of silks, rayons, and hosiery processed and finished with Onyx products. Booth will contain complete laboratory in which regular routine work will be conducted and laboratory control emphasized. Rep.: V. H. Berman, C. D. Ehrengart, P. Kaplan, Dr. Henzerling, Messrs. Boynton and Brick.

Passaic Bobbin Works, Paterson, N. J. Booth 120. Fiber-head spools. Featuring raw materials and materials in progressive stages of manufacture. Rep.: W. J. Williams, C. E. Shappell.

Paterson Silk Machinery Exchange, Inc., Paterson, N. J. Booths 8, 10. Reconditioned Universal No. 90 copper with bunch-builder attachments; reconditioned Crompton & Knowles Worcester 2 x 1, 52-in. loom, motor driven; assortment of spindles and motor drives. Featuring results of reconditioning. Rep.: J. Rosenstein, A. Rosenstein.

Pearl River Valley Lumber Co., Canton, Mass. See Textile Supplies, Inc. Booth 132.

Permutit Co., New York. Booths 67, 69. Featuring complete water-treating equipment for textile mills. Cut-out view of 30-in. water softener; electrochemical feed; continuous blow-off equipment; 12-in. household softener; Ranarex CO_2 indicators and recorders. Rep.: M. F. Corin, J. S. Shedden, A. E. Davis, R. W. Epple.

Rayon, New York. Booth 108. Textile publications.

Reeves Pulley Co., Columbus, Inc. Booth 18. Various designs of variable-speed transmissions, providing infinite speed adjustability and control for all types of silk machinery. Featuring enclosed-design; Reeves variable-speed transmission, incorporating centralized system of lubrication; also new type of automatic electric control as applied to this equipment. Rep.: D. W. Clem, H. W. Randolph.

Rhode Island Warp Stop Equipment Co., Pawtucket, R. I. Booths 93, 94. K-A electrical warp stop motion in operation on a two-ply crepe with six-thread filling. Emphasizing new mechanical features relating to knock-off; different types of feelers; a timing device for stopping the exhausted shuttle in the plain box. Rep.: F. Quance, J. Bolton, E. C. Smith.

Rosella Mills, Inc., West Warwick, R. I. Textile Supplies, Inc. Booth 132.

Royce Chemical Co., Carlton Hill, N. J. Booths 79, 80. Bleaching, dyeing, and finishing oils and compounds including Castrolite, Velvo-Ray A, Velvo-Ray No. 233, Velvo-Ray No. 233 A, zinc sulphate, Discolite, Aratex Gum, Print Gum T; sulfonated castor oils, olive oils, red oils, tallows, specialities for delustering, etc. Rep.: A. J. Royce, R. S. Griffith.

Saentis Co., Union City, N. J. Booth 83. Featuring high-speed "Saurer" single-shuttle ribbon loom, and "Saentis" textile enlarging camera.

Scandia Mfg. Co., North Arlington, N. J. Booths 33, 35. Rubbing machines. Rep.: A. Larson.

R. DeVere Hope, chairman, Silk Machinery Exposition

Silk, New York. Booth 52. Textile publications.

Silk City Exchange, Paterson, N. J. Booth 135. Crompton & Knowles, 54-in., 2 x 1 box loom, A. & B. let-off motion. Featuring loom cut down from 72 in. to 54 in. Rep.: L. Lewin.

Silk City Metals Coating Co., Inc., Paterson, N. J. Booth R. Newly patented take-up rollers and temple rollers, metal coatings on quills, cops for electrical feelers, and other metal-coated equipment. Featuring new covering for takeup and temple rollers. Rep.: P. Doerseln.

Silk Digest Weekly, New York, Booth 54. Textile publications.

Silk Travelers' Association, New York. Booth 115.

Sipp-Eastwood Corp., Paterson, N. J. Booths 23, 32. High-speed warper, over-end cone creel, and single-deck winder. Featuring the high speeds obtainable with the high-speed warper and over-end cone creel in the manufacture of fine silk, rayon, and cotton fabrics. Rep.: J. B. Newton, C. A. Paterson.

H. M. Smith, Paterson, N. J. Booths 117, 119. Chevrolet panel truck for silk companies. Rep.: H. M. Smith.

Smith, Drum & Co., Philadelphia. Booths 65, 66. Skein dyeing machinery, featuring its advantages in the application of vat colors to rayon, silk and cotton, and in the handling of fine counts of yarn. Rep.: N. M. Smith, H. S. Drum, W. C. Dodson, C. A. Sauerbrey.

Steel Heddle Mfg. Co., Philadelphia. Booth 127. Space to be used as reception booth where attendants will explain the advantages of the company's equipment, as demonstrated by models in operation in the adjacent booths of the Draper Corp. and Crompton & Knowles

Loom Works. Rep.: Mr. Freitag and others.

Testing Machines, Inc., New York. Booth S. Schopper standard textile testers, including tensile-strength testers for yarns and fabrics, precision twist counters, pick counters, yarn-numbering apparatus, fabric abrasion tester, scales, numbering quadrant, etc. Featuring the accuracy and precision of Schopper instruments and machines for determining the various physical properties of silk. Rep.: J. H. Eaton.

Textile Color Card Association of the U. S., Inc., New York. Booth 78. Educational exhibits, featuring the American color cards created by the association. Rep.: Mrs. M. H. Rorke, Misses E. Tennis, H. C. Duffus, E. B. Lion.

Textile-Finishing Machinery Co., Providence, R. I. Booths 13, 15. Six-color printing machine equipped with special attachments, used for printing silk, rayon, and other fine fabrics. Featuring automatic tenter clips designed for handling very light fabrics. Rep.: R. E. Burnham, E. D. Ingalls, W. Taylor.

Textile Supplies, Inc., Paterson, N. J. Booth 132. Representatives for manufacturers, including Dana S. Courtney Co., Chicopee, Mass.—quills and bobbins; French Heddle Co., Orangeburg, N. Y.—French twisted wire heddles, and false-reed heddles; George E. Kilburn Mfg. Co., Milford, Mass.—drop wires, whorl spindles, warp stop motion, and standard loom steel parts; La Favorite Rubber Mfg. Co., Hawthorne, N. J.—Marvel crepe rubber; Lestershire Spool & Mfg. Co., Johnson City, N. Y.—fiber head bobbins of pressed-on-type head and ring-type head; Middlesex Paper Tube Co., Lowell, Mass.—spiral-wound paper tubes in either the plain type or with a specially wound kraft wrapper; New England Paper Tube Co., Pawtucket, R. I.—plain and corrugated paper cops, straight-wound paper tubes; Pearl River Lumber Co., Canton, Mass. — Pioneer Gold Label picker stick; Rosella Mills, Inc., West Warwick, R. I.—Rosella felt; Vermont Spool & Bobbin Co., Burlington, Vt.—spools, skewers, wood turnings; Walker Mfg. Co., Philadelphia—reeds, heddle frames, and wool and cotton heddles; Walton Trunk Co., New York — fiber barrels, mill baskets, fiber and steel trucks, and vulcanized fiber shipping trunk for the dyehouse trade; Wayne Mfg. Co., Honesdale, Pa. — winder, cop, and quiller spindles, throwing machinery parts, spinner change gears, fliers and flier blocks. Rep.: H. Van Brederode, A. J. Troast.

Textile World, New York. Booth 118. Textile periodicals, directories, catalogs, technical books, etc.. Represented by members of editorial and business staffs.

P. N. Thorpe & Co., New York. Booth 59. Textile-mill motors. Featuring application of individual motor drive on silk looms. Also a new textile motor for use on machinery where lint or waste products might collect. Rep.: P. N. Thorpe, H. B. Thorpe, W. K. Bloom, R. D. Ingalls, W. C. Straub, T. M. Wolfe. (Booth held jointly with Diehl Mfg. Co., Elizabethport, N. J.)

Uehling Instrument Co., Paterson, N. J. Booth F. Indicating, recording, and control apparatus.

U. S. Textile Machine Co., Scranton, Pa. Booths 60, 61, 62. Throwing machinery. Featuring double-deck twister. Rep.: A. W. Thomas, P. J. Thomas, E. Townsend.

Universal Winding Co., Boston. Booths 49, 50. Winding machines. Featuring new No. 30 winding machine, designed and adapted for handling silk and rayon yarn. Rep.: H. H. Jackson, A. I. Harvey, J. Dean, F. Quinn, E. A. Broadbent.

Van Vlaanderen Machine Co., Paterson, N. J. Booths 39-48. Silk dyeing and finishing machinery.

Vermont Spool & Bobbin Co., Burlington, Vt. See Textile Supplies, Inc. Booth 132.

Walker Mfg. Co., Philadelphia. See Textile Supplies, Inc. Booth 132.

Walton Trunk Co., New York. See Textile Supplies, Inc. Booth 132.

Warp Twisting-In Machine Co., Brooklyn. Booths 17, 19, 21. Warp twisting-in. machine in operation on a raw-silk warp in the loom, and warp tying-in machine in operation on a rayon warp away from the loom; warp tying-in machine in operation on a georgette warp, 75 turns per in., the warp composed of two right and two left twists throughout. Featuring a portable warp-stop-motion bracket which allows harnesses equipped with warp stop motion to be transferred intact from the loom to the drawing-in. Rep.: J. H. Becker, A. Bachmann, W. Haycook.

Watson Flagg Engineering Co., Paterson, N. J. Booth 101. Electrical equipment and accessories, including textile motor applications, propeller fans for steam and fume extraction, liquid and trash pumps, etc. Rep.: A. C. Schielke, H. W. Desaix.

Watson Flagg Machine Co., Paterson, N. J. Booths 103, 105.

Wayne Mfg. Co., Honesdale, Pa. Textile Supplies, Inc. Booth 132.

Werner Machine Co., Passaic, N. J. Booth 56. Vacuum extractor unit. Rep.: P. Rose, R. Hoffman.

Jacques Wolf & Co., Passaic, N. J. Booths 11, 12. Chemical specialties for dyeing, weighting, finishing, and printing silk and rayon. Featuring Supertex, a new textile printing gum, and demonstrating its use on a laboratory printing machine built by the Societe Alsacienne de Constructions, Mecaniques, Mulhouse, France. Rep.: H. V. Pfister, G. J. Desmond, C. J. Rahm, C. E. Wright, M. F. Costello, W. F. Seltzer.

Wollen Chemical & Supply Co., Paterson. Booth 38. See Olive Oil Soap Co.

Women's Wear, New York. Booth 86. Textile publications.

Visit Us at Paterson

TEXTILE WORLD's headquarters at the National Silk Machinery Exposition, Fifth Regiment Armory, Paterson, N. J., Saturday, Nov. 14, to Saturday, Nov. 21, inclusive, will be located in booth 118. Representatives of TEXTILE WORLD will be in daily attendance. Complimentary tickets to the show may be obtained by writing to the Editor, TEXTILE WORLD, 330 West 42nd St., New York.

Silk Association Reports Fairly Good Year

A FAIRLY good position as regards volume of business has been held by the silk industry during the last fiscal year, it is indicated in the thirty-second mid-year report of the Silk Association of America, which was made public this week. Ramsay Peugnet, secretary of the association, in his foreword, writes:

"The silk industry has maintained its status in volume of business, in spite of adverse conditions, yardage output having increased 10% during the first eight months of the present year as compared with the same period of 1930."

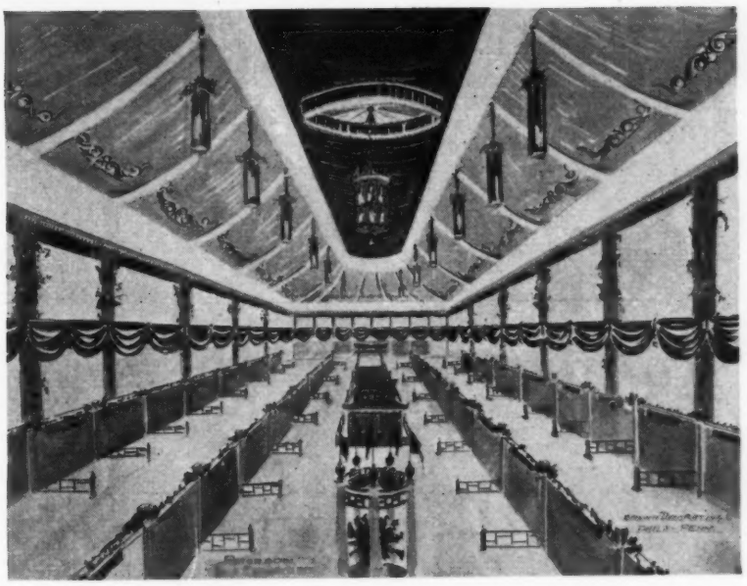
The report shows that 140,000 wage earners are now employed by the industry in 1,491 establishments and the total value of the product of silk manufacturers in the United States yearly is $731,000,000. New features of the report are two added charts, one depicting prices of raw silk, wool, cotton, the other showing the trend of broad-silk sales and stocks.

Signs of a new and more constructive trend in production policy are seen in the broadsilk situation. The weavers are disposed to caution "which has already made itself felt in a shortage of some fabrics." Thrown silk has not enjoyed a good period, due to backward buying. Volume of sewing-silk declined, but only in same ratio as last year. Position of velvet group has been especially good and the manufacturers "expect that sales will exceed last year, if business has its usual fall pick-up."

Acute competition is complained of in the ribbon industry, but the trade is optimistic. An unsettled condition has been much improved by reduction of stocks. Hosiery position is better due to curtailment, but buying has been sluggish. Tendency of novelties like meshes and other lace lines has helped toward trade-up in this field. "Dull hosiery," the report adds, "continued in popularity during the year."

Silk Mills Learned to Curtail

In Difficult Year



Plan for decorating Paterson Armory for Silk Show

THE apathy which has marked certain divisions of the silk industry during the better part of 1931, promises to be dissipated to some extent next Saturday when the Silk Institute meeting and the Silk Machinery Exposition, will open in Paterson, N. J. This is a propitious time for such an event, as the industry is sadly in need of stimulus. While suffering less than some other industries from the effects of the depression, the silk trade has had a far from encouraging year to date. There are numerous promising signs; the healthy vitality manifest in broadsilks early this fall was significant, and weavers as a group seem determined to put the brakes on production, with the aim of steadying price levels. At the primary market end however, a surplus in Japan plus reduced demand here brought about an uncertainty from which this division has not yet recovered.

Raw silk levels fluctuated sharply during the first months of 1931, and prices hit new lows. Buying was hesitant; broadsilk mills filled their needs in small week-by-week contracts. Hosiery manufacturers had curtailed to reduce their own over-abundant stocks, and bought much less than their normal quota of raw silk. The primary market reacted constantly to economic and political developments, and a feeling of acute caution prevailed.

Japanese filatures were reported making efforts to curtail production, but the results of these efforts have not shown themselves strongly as yet. The wise decision of the Japanese to refrain from releasing their surplus stocks, now bonded in warehouse, prevented a glut which undoubtedly would have precipitated even lower price levels here.

At home, the situation has been considerably better. Throwsters and spinners have followed a rigid policy of curtailment, and stocks of yarn are low in both divisions. Throwsters enjoyed some spurts of business through spring, but early summer brought a lull from which there has been no real recovery. Thanks to low thrown yarn stocks prices were steady, except for reflections of primary market deviations. Spinners began 1931 well, but here too the late spring ushered in a dull period that has not yet passed. Spinners are confident of the outlook for spring 1932, however, as the new broadsilk lines include numerous important fabrics of spun silk content, and some lively buying is expected to develop in December.

Broadsilk manufacturers should bring a spirit of optimism to Paterson; they, of all the silk groups, face the best prospects. That is not to say there are no serious problems ahead for them; but they have shown capacity to meet these problems. The broadsilk trade learned a bitter lesson last spring when the prints which had been grossly overproduced, suffered a price break forcing even the biggest houses to sell at cost or below. The spring season is not a cheery picture when reviewed. Price-slashing was rampant throughout the fabric industry; the rush to clear was induced by a sudden unanticipated style trend away from prints.

This experience hit weavers so hard that a determined effort was started to tighten production, narrow color and design ranges, and in other ways make for stability. The Silk Association of America took cognizance of the problem in starting a trade-wide survey. Broadsilk mills opened their fall season in decidedly better condition; they delayed showings until buyer interest was manifest, and during the early weeks they kept production down so effectively that prices held firm through the better part of the season.

Indeed, August and September were good months for the broadsilk trade; cantons, satins and several other fabrics sold at comparatively profitable levels. Prospects for this industry point to a low inventory, and mills have started their spring season determined to curtail even further. Some leading houses have completely reorganized their production programs and plan to print virtually to order.

Of the transparent velvet situation, we need say little. The excellent business done by the pile houses this fall is well known; they boldly raised prices and buyers met the new levels unhesitatingly. Style approval helped to this end, but judicious watch on production also was a factor.

So broadsilk manufacturers can journey to Paterson and participate in "Silk Industry week," with reasonable confidence. Their own position is considerably better than it was 12 months ago, in that they are awake to the vital need of curtailment. To this group the Exposition will come as the right thing at the right moment.

Parts *Rather Than Machines* Obsolete *in Silk and Rayon Throwing*

*Fourth article in second depreciation series**

THROWING is a simpler process than some which we have discussed previously in this series. It follows that the progress made in the development of fundamental throwing-machine principles fairly early in the mechanical era was sufficient to satisfy rather well the demands of the industry up to the present time, with certain exceptions in the soaking and setting operations, which are not throwing processes in the strictest sense. Even the introduction of rayon did not necessitate any radical changes, except in some cases where a heavier machine and provision for larger packages were required.

Nevertheless, there has lately occurred a rather general improvement in machine details. In the main these improvements involve no changes in general machine design, but they do involve the use of new parts. Most of these parts may be applied to machines now in operation without great expense or insufferable inconvenience. Although the fact that most of these improvements are of such recent origin that time has not permitted their widespread acceptance by the trade—and consequently many have yet to receive their stamp of general approval—it will be of benefit to survey them and point out those advantages which seem worthy of consideration.

Silk-Soaking Equipment

Let us begin logically with the first process, silk soaking. In a number of mills equipment for this operation having a continuous, reversible forced-feed circulation has replaced the open tub, which until a year or two ago was almost universally employed. Installation of machines of the pressure type has enabled these mills to reduce the quantity of soaking solution to about one-half the amount previously required and to complete the soaking of a batch of silk in one to two hours.

A one-bale machine will soak seven bales a day, or 2,100 bales in a year of 300 working days; and it is estimated that the equipment will pay for itself in less than a year on the basis of oil and soap saving alone, without considering the economies in time, inventory, and floor space made possible by the increased speed with which soaking is accomplished. Thus for soaking one bale of silk by the open-tub method, about 13 pints of neats-foot oil and 5¾ lb. of olive-oil soap are required; and with neats-foot oil at 11c. per pint and olive-oil soap at 12c. per pound, the total cost for chemicals will be $2.12 per bale. As the pressure type of machine gives 90% exhaustion of the bath, compared with 50% exhaustion with the open tub, 40% less soap and oil are needed, giving a saving of approximately 85c. per bale, or nearly $1,800 per year.

Another important advantage which has followed the adoption of equipment with forced-feed circulation is uniform soaking of every batch, thus minimizing manufacturing difficulties. In addition, the short soaking time gives greater flexibility, so that if a request for a special lot of silk is received in the morning, the silk can be soaked immediately and throwing completed in the afternoon. In this way the lot is ready for weaving or knitting the next morning.

Mechanical Operations

In the mechanical operations attempts have been made at several points to increase production, improve quality of the product, and lower operating costs. The general adoption of individual-motor drives has eliminated much overhead shafting, thereby obviating an inconvenient lubricating job, improving the lighting conditions, eliminating the danger of goods being stained by oil dropping from above, and removing an important headquarters for the accumulation of dirt. The individual motor also obviates any necessity for shutting down a large number of machines when motor trouble arises; makes possible a reduction in power when only a few machines are to be operated; improves the uniformity of operation of various machines by the elimination of belt slippage; and facilitates the revision of machinery layouts.

Probably the outstanding improvement made in winding equipment in recent years is the application of oilless bearings. These insure constant lubrication, obviate wastage of oil, and prevent staining of the material from dripping. The latter advantage is particularly important in the case of rayon, due to the difficulty in removing oil stains from synthetic material. With ordinary bearings, oil frequently drips on the machinery and floor, causing dirt to adhere to the places affected.

Oilless spindle bearings eliminate oiling of the ends of the spindles ordinarily required when these parts or the cast-iron bearings become worn. The application of lubricant in such cases often permits oil to reach the spindle heads, decreasing the friction, slowing up the spindle, and often making soft spools. The oil will also occasionally reach the yarn itself through the medium of the operators' hands. Certain oilless bearings now applied to the spindle brackets may be turned part way

*Cotton-yarn machinery was discussed July 4; worsted-yarn machinery, Aug. 1; woolen-yarn machinery, Sept. 5. The next article, to appear shortly, will deal with underwear and outerwear knitting machinery.

IN TEXTILE EQUIPMENT . . . .

around to provide new bearing surfaces when wear has taken place. Accurate machining makes possible the elimination of end play in the spindles by proper placing of the bearings, permitting faster speed. They may be easily renewed when necessary. Oilless shaft bearings have been made self-aligning to insure easy running of machines and have been made split to permit their replacement without removal of the shaft.

To reduce jar and vibration, metal carriages have been provided on each side of winders, each sliding on a rigid bar. This arrangement is intended to facilitate the accurate building of spools and to permit running the machine at higher speed. In some new machines the traverse bar lies on an oilless steel-jacketed roll and is equipped with a locking strip which engages in a slot and prevents the traverse bar from being accidentally knocked off the frame. The unit-assembly drive facilitates accurate adjustment and alignment, and may be moved to adjust the belt tension, thus making shortening of the belt unnecessary. Good alignment is also aided by an upper crosshead designed as a complete unit. Of considerable improvement to winding are the adjustable swifts, which may be partly collapsed for receiving the skeins, permitting a good balance to be attained without excessive loss of time.

Ewing Galloway

Oilless bearings are improving winder operation

Combined Doubling and Twisting

Since doubling, as an individual process, is to a considerable degree vanishing, it is not surprising that in doublers no improvements worthy of mention have been made. In the combined doubler and twister, however, there have been a number of developments. Improved smoothness of operation and slightly increased speed are afforded by the application of ball bearings and of stronger spindles. Improved spindle steps reduce the frequency of oiling and insure that a large volume of lubricant is circulated constantly. Production is increased also by the adoption of larger packages, some of the newer bobbins holding over 50% more than those which they replace. The use of swinging spindles, held to the driving belt by springs, affords more positive operation, improves the uniformity of the twist, permits the use of a simplified and more positive stop motion, and requires less power. Adoption of the vertical-motor drive simplifies changing the direction of twist and the speed of the spindles, provision for making such alterations being afforded by the spirals at the top of the motor. Accurately milled traverse cams make more uniformly shaped and wound bobbins. The feed-roll equipment has been made more efficient, partly by the application of oilless wood bushings to the bearings. A vertical type of ring makes possible a higher speed.

The few mills which are still using separate doublers and twisters would do well to consider the advantages of cutting labor costs approximately in half and eliminating one handling of the material by the adoption of the combination doubler and twister. It is recognized, however, that doublers are desirable for handling heavy threads, and they must be used where no twisting is wanted.

Some of the improvements already mentioned in connection with machines for the earlier processes—such as ball bearings and stronger spindles—have been applied to the twisters or spinners. Oil wells for the spindles have been made larger, in some cases seven times the former capacity, to decrease the frequency of lubrication; and they have been designed to remove the danger of oil spilling over and staining the silk or rayon. Provision has been made for keeping the oil clean during operation. Larger oil reservoirs have been applied also to idlers.

In new machines the spindle belt may be replaced endless, which saves several hours' time when new belts are required during operating periods. In order that when a belt breaks the take-up will stop simultaneously with the spindle, the take-up on some of the newer machines is driven through the end of the frame opposite the motor, rather than from the motor shaft.

On improved machines of the double-deck type the distances between delivery spindle and traverse bar and between traverse bar and take-up bobbin have been made the same on both decks. This avoids variations in the tension on the yarn and is particularly advantageous in the case of rayon, heavy silk yarn, and hosiery yarn having 11 to 15 turns per inch. Differences in tension cause variations in the appearance of the yarn. Individual adjustment of spindle swings affords satisfactory belt contact and uniform spindle speeds. This arrangement prevents a waste of power from excessive tension.

Numerous oil and grease retainers, drip pans, and the absence of unnecessary openings in the end frames

Ewing Galloway

Doubler-twisters now operate with greater smoothness

serve to maintain the cleanliness of the material being twisted. One type of twister employs a traverse motion similar to that mentioned in discussing winders. Roller-bearing spindles have been found to improve uniformity of the product and afford savings in power. Motors are protected from excessive current inrush, the life of the belt is lengthened, and uniformity in twist is facilitated by the use of slip-pulley starters for the spindle belt. Take-up rolls can be driven from the spindle belt in order that the relation between take-up and spindle speeds will be constant. Belt tensions are maintained by mounting the motors on adjustable bases with automatic take-up. Thread guides have been made individually adjustable in every direction to suit varying conditions. Twist gearing is placed outside the frame for better accessibility. Calculations have been simplified by making the number of feeds in the take-up gear equal to the number of turns to be inserted in the thread.

Double Deck Machines

Throwsters are divided in their opinions regarding the relative merits of double-deck and single-deck twisters. Double-deck machines save 50% of the floor space; and where such space is at a premium the double-decks are favored. The single-decks, however, afford better lighting conditions and permit better supervision of the help. Some throwsters have reported that the double-decks cannot be efficiently handled by operatives of low stature, and others have declared that they cause an undesirable vibration. In many instances two single-decks already in operation have been changed over to one double-deck. These comments apply somewhat to winders.

It has recently been announced by one machinery builder that old spinners can be so altered that a motor may be employed for each deck, belts may be replaced endless, and the take-up stop motion may be placed at the end opposite to the motor. There are some twisters on the market designed specifically for rayon, but these are mainly for the use of the rayon manufacturer who puts only a few turns of twist in his product. Since rayon, generally speaking, is a coarser material than silk, heavier packages are necessary in order to hold a practical length of yarn. The larger packages necessitate heavier machines and greater spacing between spindles. On one rayon twister of the up-spinning type a four-spindle tape drive is used and each spindle is provided with an efficient hand brake. An adjustable rod is provided for governing yarn tension. All driving mechanisms are contained in oil-tight casings and are automatically oiled.

Redrawing

Redraw frames, also called back-winders, resemble the winders for the first mechanical throwing process and have been improved in similar manner to the latter machines. Elimination of the danger of stains from oil is of particular importance in this process, because the thread has been made and any waste created at this time is a greater financial loss than that made in the earlier processes. Holding the bobbins firmly on the spindles by means of balloon-spring arbors and rotating the spindles in oilless bushings or ball bearings afford smooth running of the bobbins and permits high speeds. Power is saved by elimination of the friction caused by the stationary spindles.

The gain in production on one new redraw frame is said to amount to approximately 20%. An adjustable brake strap provides suitable yarn tension. Lifting of the take-up spindle from the driving wheel when a full bobbin has been made is rendered possible by a special stop motion. A so-called snub starter brings the machine gradually to speed, but permits the motor to reach full speed at once. This arrangement is said to reduce the number of broken threads in starting, to eliminate the peak load on the motor, to reduce power cost, and to obviate much blowing of fuses. It renders unnecessary the starting of each spindle separately in order to avoid breakage. This is applicable to winders.

Heavier and more accurate stop and start motions have made possible an increased production on reels. In modern reels the fly is more accessible and easier to handle, it being pulled off straight in front instead of over the top.

For setting twist, the older method, which consists of soaking the material over night in an emulsion of soap or oil, has been largely superseded by the steaming process, which reduces the time required to about one hour. More recently the vacuum system has been adopted by some of the leading silk mills. In this method, since the silk is steamed in an air-tight chamber, the twist is set more quickly than by other means and considerable savings in time and steam are effected.

Throughout the throwing processes there has been a general tendency toward the development of greater rigidity and increased durability in the machines. Although the latter improvement is not of immediate importance to throwsters whose equipment is now in good condition, it is a promise of greater satisfaction in the future and injects a new force into the arguments for purchasing new, rather than second-hand, machinery.

Research Institute to Push Program *as Stratton Memorial—Herty Unable to Take Office*

Dr. Charles H. Herty, who addressed the research institute

ALTHOUGH the annual meeting of the U. S. Institute for Textile Research, held Thursday of this week in New York, was saddened by the recent death of the Institute's president, Dr. Samuel W. Stratton, this sorrow was somewhat mitigated by the realization that the ground-work had been laid for the prosecution of the ideals advanced by Dr. Stratton during his term of office. It is felt that the advancement of those ideals will represent the best tribute the organization can pay to its late president.

Consequently, great interest was attached to the presentation of a report on the "Survey of Textile Research in the United States" compiled by the Institute for the Textile Foundation. This report, the inspiring talk by Dr. Charles H. Herty, and the review of progress made during the year, were among the high-lights of the meeting. Earlier in the day, the board of directors had elected new officers and directors. A successor to Dr. Stratton, however, has not yet been named. Meanwhile, his duties devolve upon the first vice-president, Thomas T. Clark, president and treasurer of the Talbot Mills.

It developed during the meeting that an attempt had been made to influence Dr. Herty to accept the presidency. Much as Dr. Herty appreciated the honor and desired to participate in this work, pressure of his own activities prevented his acceptance. However it was indicated at the end of the meeting that the organization had not given up hopes of eventually persuading Dr. Herty to accept this office.

That the textile industry in this country can no longer be justifiably classified as backward if comparison is made between the number of its mills engaged in technical research and those of other leading industries, was the conclusion reached in the report on the survey conducted for the Foundation. This survey showed that 159 textile concerns, or 14% of the total canvassed, reported research, while another recent survey in 40 industries showed only 353 concerns, or 7% of the total canvassed, engaged in research. This deduction was qualified however by the statement that textile manufacturing units are much smaller as a rule than those of other leading industries, and that in money annually expended for technical research they would make a poor showing as compared with the electric, chemical, steel, and automotive fields.

The survey emphasizes the lack and need of more fundamental textile knowledge, and scientific research with that objective in view. This is necessary, the report says, to provide a basis for development work that should result in new products and processes that are needed to take up slack in the industry's excess productive capacity.

The first piece of completed research to be reported by one of the laboratories cooperating with the Institute was described at the meeting. This is the development, in the textile laboratories of Massachusetts Institute of Technology, of a torsion balance yarn numbering scale that for the first time provides correction for moisture regain. The instrument thus to be made available to the industry is designed for routine mill testing of yarns, and not for refined research work. A report prepared by E. R. Schwarz, assistant professor of textile technology at M. I. T., describing this scale, was read at the meeting.

The annual report of the secretary, Charles H. Clark, revealed a year of aggressive work in membership activities, in the publication of the T. R. I. Bulletin, in the compilation and delivery of the survey for the Textile Foundation, and in the development of tentative plans for an annual volume to be entitled "Textile Research Progress."

Of the six vice-presidents, Albert F. Bemis, Thomas T. Clark, W. R. Blum and H. V. R. Scheel were reelected. Of last year's slate H. R. Fitzgerald had died and E. A. Clements resigned. K. P. Lewis, treasurer, Erwin Cotton Mills, Durham, N. C., was elected a vice-president, leaving one vacancy unfilled. Ernest N. Hood was reelected treasurer and C. H. Clark reelected secretary. Of the six members of the executive committee, H. V. R. Scheel, Ernest N. Hood, Thomas T. Clark and Dr. E. H. Killheffer were reelected. P. A. Johnson Aspinook Co., and Alban Eavenson, Eavenson & Levering Co., were elected to that committee, and C. W. Causey and E. A. Clements resigned.

The eight one-year directors elected last year were reelected for three years with the exception of Dr. W. F. Edwards, who resigned. C. H. Clark, secretary of the institute, was elected to directorate for three years. A vacancy among the eight two-year directors caused by the resignation of E. A. Clements, has not yet been filled. Three new directors, elected to serve the remaining two years with the first three-year class, follow: K. P. Lewis, Erwin Cotton Mills; Robert R. West, Riverside & Dan River Cotton Mills; John W. Arrington, Union Bleachery. The three vacancies were due to the deaths of H. R. Fitzgerald and Dr. Stratton and the resignation of C. W. Causey.

Broad Aspects of Wage Situation *Receiving Attention in New England*

From TEXTILE WORLD'S *New England Office*

WITH the Lawrence, Mass., strike serving as the focal point, discussion of the wage situation is again prominent in New England. The discussion is not limited to whether or not it is necessary for a certain mill to make a reduction, but includes the broader aspects of wage structures in the section and even touches upon the fundamental relation of capital and labor.

The most recent developments at Lawrence, where the strike of over 20,000 workers against a 10% wage reduction is in its fifth week, include a secret ballot on whether the workers of the Monomac Spinning Co. will return to work, and the closing down of the Assabet Mills of the American Woolen Co. at Maynard, Mass., where some 1,500 have been employed. In the case of Monomac, a worsted yarn plant with 83,200 spindles, a ballot, signed by Agent Walter M. Hastings, was mailed to the employees on Tuesday with the request that they vote on the question of returning to work with the 10% reduction in effect, returning the ballots to an impartial committee who would make the count. It was assumed that if the vote was in the affirmative adequate protection would be given. At time of going to press it was stated that the vote was running heavily in favor of return to work.

The first definite sign of a break in the strike occurred on Wednesday morning when about 250 employees presented themselves at the M. T. Stevens & Sons Co. mills in North Andover, Mass., and applied for work. About 75 were taken on and it was hoped that the balance would be employed shortly. The workers had taken a secret ballot Tuesday night and voted 87 to 70 to declare the strike off. In the meantime, the citizen's committee of Lawrence declared that it would make plans for a secret vote of all the affected workers of the city, believing this the only possible solution of the difficulty. A demonstration by strikers outside the Arlington Mills Wednesday night resulted in 11 arrests but no injuries.

Closing of the Assabet Mills grew out of the discharge of 18 girls who refused to work on material brought over from the Lawrence mills. Union leaders are endeavoring to prevent work from being transferred from Lawrence to other mills owned by Lawrence manufacturers and to hinder commission work by other mills, but little, outside the immediate vicinity, has been done in this direction. Pickets were withdrawn from the Beaver Brook mill of the American Woolen Co. at Dracut, Mass., on Tuesday.

It was the publication of tables of comparative wage rates, coupled with the suggestion that there be an impartial investigation of rates throughout New England, that stirred up discussion of the broader aspects of the wage structure. The situation has focused attention on the already well-known fact that there is a wide disparity in the rates paid by individual mills and has made evident the difficulty, with the present available data, of ascertaining whether an individual mill or district is, or is not, in line with the rest of the industry. There has been agitation that the State of Massachusetts conduct an investigation, but nothing definite has been done as yet.

Another topic which has aroused discussion is the announcement that the Stillwater Worsted Mills, with New England plants at Harrisville, Greenville, Ashaway and Mapleville, R. I., is starting on a three shift basis rather than the two shift basis prevalent for some time.

Each shift will be on duty eight hours with the usual time allowed for rest and recreation. Stillwater is currently operating on the minimum wage scale plan promulgated by its president, Austin T. Levy, last spring. (TEXTILE WORLD, Mar. 7.)

Fall River Uncertain

The situation among the cotton manufacturers of Fall River, Mass., is one of uncertainty. Sagamore Mfg. Co. reopened last week, after being closed for a week, with wage adjustments in effect and the Bourne Mills and Pilgrim Mills also made changes. Berkshire Fine Spinning Associates and Pepperell Mfg. Co. previously made cuts which affected their Fall River plants. The majority of manufacturers are studying the problem and also giving attention to rates in other districts. Several mill men are of the opinion that there will be no action on the part of the manufacturer's association which would mean a general reduction in all the member mills, but believe that it is more likely that each mill will study its own individual problem and reach an individual decision on whether or not a cut is necessary. However, opinion is in such a state of flux that no definite predictions are being made. It is evident that the tendency is to do everything possible to avoid reduction.

In New Bedford the wage situation is even more clouded. Manufacturers are thinking of the problem and discussing the different angles, but no definite majority opinion, one way or the other, has manifested itself.

Gala Dinner in New York, Parade in Philadelphia

Usher in "Wool Week"

Star Events on Nov. 7 Which Mark Opening of National Wool Week

Afternoon **— Civic demonstration and parade in Philadelphia. Floats will show evolution of wool from the sheep's back to finished fabrics and apparel.**

Evening **— National Wool Week Dinner, at the Waldorf-Astoria Hotel, New York City. This event formally opens Wool Week. The speakers include:**

Col. C. F. H. Johnson, chairman, National Wool Week.
Arthur C. Hyde, Secretary of Agriculture.
James Stone, Chairman of the Federal Farm Board.
Lord Barnby, leading British wool manufacturer.
James J. Walker, Mayor of the City of New York.
Mrs. E. N. Rogers, Representative from Mass.

SYMPTOMATIC of the energy being put into the promotion of National Wool Week is the fact that, although this event did not formally open until today (Nov. 7), retailers throughout the country are already actively linking it up with their individual operations, which has proved a strong stimulus to sales. Today, however, is the real opening day, and the start of the drive is being signallized by two main events: National Wool Week dinner at the Waldorf-Astoria Hotel, New York, and an extensive civic demonstration in Philadelphia.

The dinner, which has been arranged by the National Wool Week Committee to crystallize trade and public opinion and direct attention to the significance of the drive, will draw together several thousand of the foremost figures in the wool industry, including all related divisions such as growers, spinners, weavers, knitters, garment and fabric manufacturers and distributors.

The list of speakers in the accompanying column illustrates the scope and importance of the dinner. Col. Chas. F. H. Johnson, of Botany Worsted Mills, chairman of Wool Week Committee, stated that the subjects covered in the addresses would include all the major issues now confronting the wool industry in its various aspects. Arthur C. Hyde, secretary of Agriculture and James Stone, chairman of the Federal Farm Board, will discuss the relationship of the agricultural, industrial and mercantile interests in wool production and distribution.

Among those present at the dinner will be delegations from the 43 marketing associations in the United States, and representatives of wool dealers' associations, mills, apparel and other manufacturing groups, and retailers who specialize in woolen products. In all, more than 12,000 invitations have been sent out for the event, and those in charge of the plans expect it to prove possibly the most representative and significant gathering of wool factors in the history of the industry.

Prior to the dinner, interest will center largely on the parade and other promotional activities to be held in Philadelphia. The wool trade of the Quaker City has been planning the program for weeks and has received the support of both the industry and the city authorities. On one day prior to the parade, it was planned to give the citizens of Philadelphia preliminary notice of the demonstration by having a motor car, equipped with a loud speaker, tour the streets; John Collins, of the Philadelphia wool trade, was scheduled to broadcast messages from the car announcing the program.

Today's parade comprises more than 25 elaborate floats which graphically depict the evolution of wool, from sheep in pasture, to the finished fabrics and apparel. Ancient and modern methods of making wool goods are shown. The parade is made up of automobiles, led by the police and firemen's bands of the city of Philadelphia.

Mayor Mackey of Philadelphia gave strong support to the event. He authorized the erection of an electric sign announcing Wool Week over the Philadelphia City Hall, and he put his administration at the service of the wool industry for the demonstration.

The Philadelphia demonstration is scheduled to conclude about 4:30 p.m. and many of the wool factors then will entrain for New York to attend the Wool Week dinner. In view of the short time allowed for that trip, certain enterprising members of the trade have arranged to come to New York by airplane. Motion pictures of the parade will be shown at the dinner.

Many important events during the final days preceding National Wool Week testified to the growing importance of the event. Proclamations calling for state-wide observance of Wool Week were issued by Warren Green, Governor of South Dakota, and by Wilbur M. Brucker, governor of Michigan, it was reported. City-wide observance will take place in 45 communities throughout the country; retailers, totaling 5,000 stores including the Sears, Roebuck and Montgomery Ward chains, are cooperating. Interesting radio programs with nation-wide hook-ups have been arranged.

◆

"All Wool and Nation Wide"

Official Slogan of National Wool Week

◆

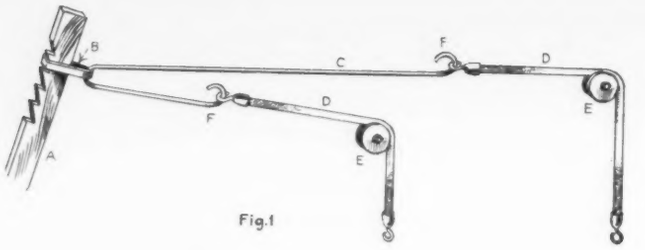


Fig.1

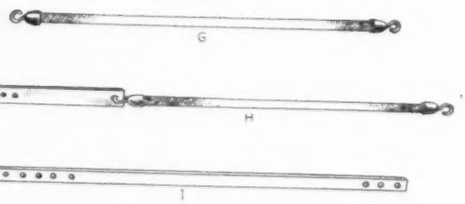


Fig.2

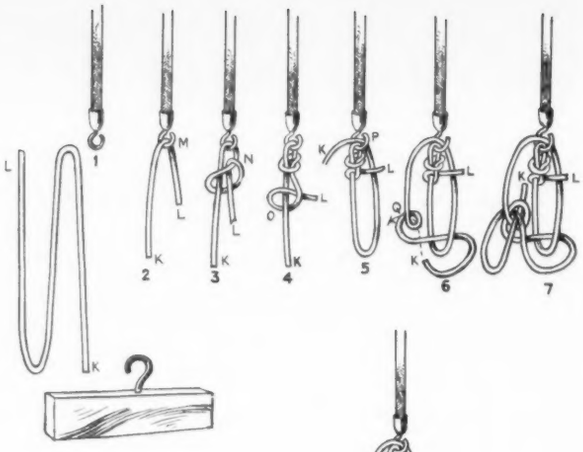


Fig.3

KNOTS

Every Loomfixer Should Know

By H. E. Wenrich

◆ *Knowledge of suitable knots and adeptness in tying them are two of the prerequisites of a good loomfixer. The section which is in charge of a man having good judgment and ability in knot tying may pride itself on increased production and a decreased amount of second-quality work as well as in the neat appearance of the weaving equipment. In addition to explaining in detail how the more commonly used types of knots are tied to best advantage, Mr. Wenrich describes two simple and practical devices which should be of value to every loomfixer.*

LONG before the loomfixer's helper or floorhand becomes a full-fledged loomfixer, he should have become thoroughly proficient in the tying of knots. However, some knots are difficult to master, and many helpers require years of experience before they are able to tie them successfully. This may be the result of not being properly instructed by the fixers under whom they serve as apprentices.

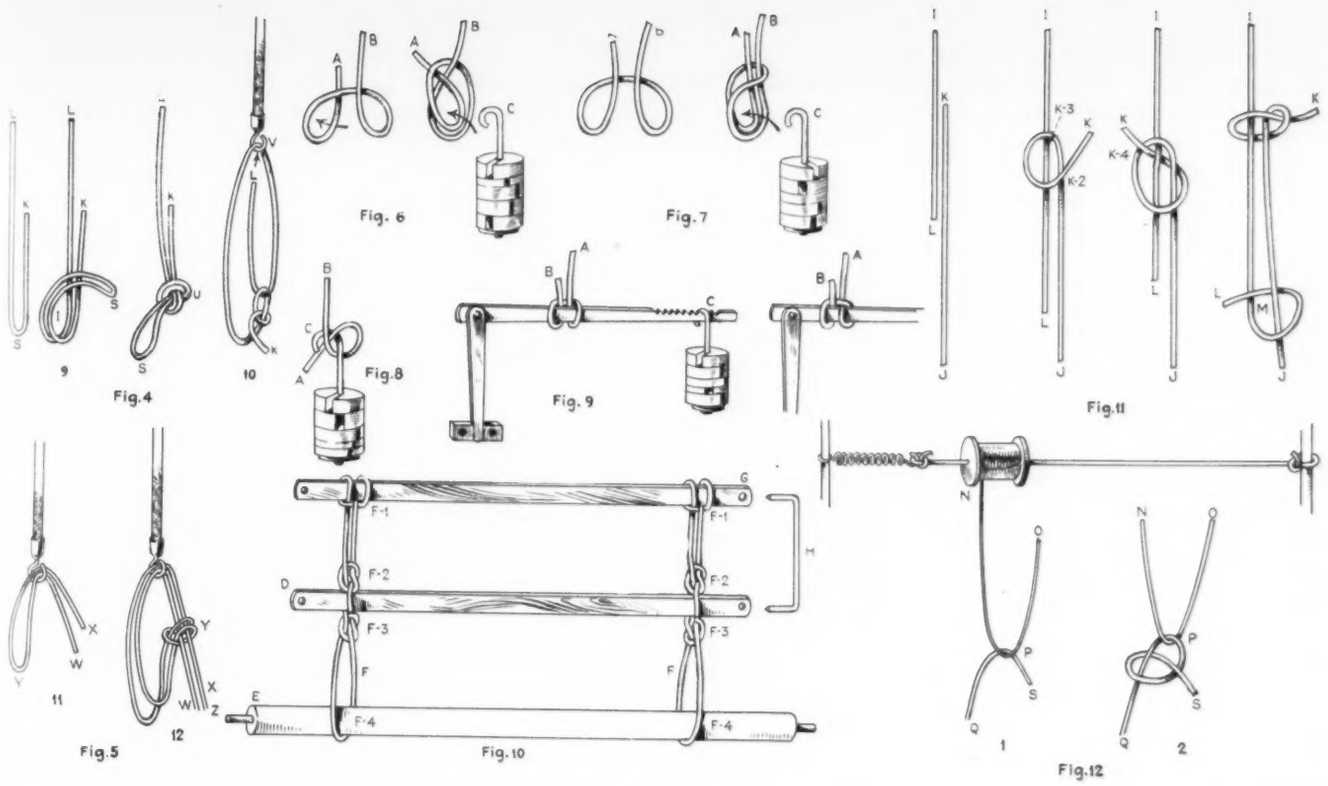
There are many kinds of serviceable knots and each is suitable for one or more specific purposes. In some cases there are several knots which can be used for the same purpose; but usually there is one particular knot far superior to others which might do "nearly as well."

To further illustrate this point, three different knots used in tying the harness cord to the dobby cord are shown; one of which is far better than the other two. As this knot is one of the most important knots to a loomfixer, he should master it so that it becomes a very simple one to tie. The successful hanging of the harness depends on the tying of a neat and sturdy knot, and every knot that is tied requires the stopping of the loom. It therefore behooves the fixer to do a good job.

Fig. 1 shows the harness dobby jack *A*, with the dobby wire *C* secured to the jack by the swivel *B*. Notice that the dobby cords *D*, which pass over the rollers *E*, are fastened to the dobby wire at *F*. Dobby wires are of different lengths; and if the loop *F* is too close to the rollers or dobby sheave *E*, the wire will ride the sheave and cause considerable damage due to the sheaves splitting and the splinters falling down into the harness, causing small smashes and broken ends. The loop *F* on the dobby wire should therefore be about 2 in. away from the dobby sheave when the dobby jack is down all the way, as shown in the illustration. Be sure that the loop *F* is pinched together with pliers so that the dobby cord cannot jump out while the loom is running.

In Fig. 2 are shown three types of dobby cords. Type *G* is the braided type, while the type at *H* consists of a short braided cord and piece of leather. The leather cord or strap type is shown at *I*. The braided dobby cord is also supplied with a wire center to prolong its wear, and this has gained considerable favor among millmen. One point against the leather strap is that the constant wear on the dobby sheaves has a tendency to burn the leather. This causes the leather to become weak; and often, before it can be noticed, the burnt spot will snap off, resulting in a fallen shaft and, in many cases, a large smash. When the braided dobby cord is about to break, the weakened section will show up very plainly. The spot about to break will have a frayed appearance, and part of the braided cord will sometimes be broken several days before the actual rupture occurs. A wise loomfixer will pass through his section at least once a day and renew all cords that are frayed, thereby avoiding smashes and other trouble. In renewing these dobby cords, the loomfixer is called upon to display his skill and knowledge of knots. This dobby-cord knot is a peculiar type and is further explained by following directions in Figs. 3, 4, and 5.

The dobby-cord knot, which is in reality a slip knot, is tied in several ways, three of which are illustrated and explained. These three methods have wide usage among the mills throughout the country, not only in silk mills but also in cotton and other textile mills. Of the different methods of tying a slip knot, that shown in Fig. 3 is far the best of the lot. After a fixer has



mastered this knot he can tie it without making any waste. Sketch 1 in Fig. 3 shows a braided dobby-cord end with the attached screw eye. Below is shown the shaft with screw eye in place. To secure the correct length of the cord or harness string, the dobby jack should be down as at *A* in Fig. 1; and the shaft of course will be resting on the silk ends with the heddle eyes on an even line with the race plate. A length equivalent to three times the distance between screw eyes is cut from a ball of harness cord. One end of the cord as at *L* is drawn about 1 in. through the eye at *M*, as shown in sketch 2.

Sketch 3 will give a clear idea of how to tie the end *L* to the dobby cord. This knot is drawn taut and another slip knot inserted as at *O* in sketch 4. Next the end *K* is brought up through the eye at *P* and drawn through as in sketch 5. In sketch 6 is shown the completed knot. With the thumb and forefinger of the left hand a half hitch or half loop is twisted in the end about 2 in. away from the end as at *Q*, while with the right hand the end *K* is passed through the large loop and brought up through the small loop *Q*. It is then passed under and brought through the loop *Q* once more, after which the loop is pulled tight by taking the cord with the left hand at *R*, in sketch 8, and giving it a slight tug. A clearer view of loop *Q* is shown in sketch 7. In hanging the shaft, the portion at *R* will come under the shaft screw eye; and the shaft can be lowered or raised by pulling up or down on the single side of the cord. This knot will never slip without someone forcing it to do so, and it makes a neat appearance on the looms.

The knot shown in Fig. 4 is practically the same in principle as the one just explained, with the exception that the knot at the slip end is tied first. The cord is shown in sketch 9, and in this knot the end *K* is used first as shown. The end is folded back about 2 in. at *S* and is drawn through a loop at *T*, forming the knot *U* —the loop *S* being used as the slip knot in Fig. 10. The end *L* is then run through the eye at *V* and next through the loop *S*, after which the end *L* is tied to the screw eye in the manner shown in Fig. 3, sketches 3 and 4, at *N* and *O*.

In Fig. 5 we have still another knot used by many fixers. This, however, does not make a neat appearance when tied and should be discarded in favor of one of the former knots. The string in this case is doubled, the two ends *W* and *X* being joined, forming the loop *Y* which is drawn through the dobby eye. Sketch 12, Fig. 5, shows another loop placed in the end *Y*. Ends *W* and *X* are passed through this loop. The loop is drawn tight; and after an adjustment has been made on the harness, a slip knot is formed by tying *W* and *X* together in a regular knot. This leaves the ends *W* and *X* flopping about as the harness is being raised and lowered while the loom is in motion.

Another series of knots which a loomfixer is called upon to tie includes those for tying the weights on the beam heads. A knot which will not slip and which is often used is the half hitch, Fig. 6. A double twist is placed in the rope and the weight hook *C* is placed in the loop thus formed.

Fig. 7 shows another method of attaching the weights. The ends *A* are often wound with a piece of string to keep them from unraveling. In Fig. 8, what is commonly called the "cat's paw" is used. This knot will slip down when the weights are off the beam head, and the end *A* should be tied by all means. This gives the fixer a choice of three distinct types of knots; the one in Fig. 6 being preferred to the other two.

The other end of the rope coming around the beam heads and tied to the lever weights is shown in Fig. 9. In this case there are two different knots shown. The nearer the knot is to the weights, the less is the tension on the warps; and the closer it is to the lever stand, the tighter is the tension. The short end of this rope is wound to prevent raveling.

In Fig. 10 is shown the system used in connecting lease rods and securing them to the whip roll. The lease rods *D* are secured with a length of cord fastened to the whip roll *E*. The front lease rod is generally spaced about 18 in. from the back of the harness, the

second rod is spaced about 6 to 10 in. from the first, and the balance of the space is taken up between the second lease rod and the whip roll.

A double length of cord is cut slightly longer than the distance from the first lease rod to the back of the whip roll, and a half hitch similar to the half-hitch knot in Fig. 6 is placed in the center and drawn tight as at *F*1, Fig 10. A slip knot is next tied in the string and placed at position *F*2 and again at position at *F*3, the rod being inserted between the two slip knots *F*2 and *F*3. The cord is then brought around the whip roll as at *F*, and the two ends are tied together as at *F*4.

Another handy kink which is a trouble shooter is the piece of wire bent in shape as at *H* and fitted into the holes in the ends of the lease rods as at *G*. If the lease rods are of wood and are cut to a considerable extent with small grooves, by running the cut portion of the rods on the side and boring new holes in the ends, the wire placed in the ends will keep the lease rods from turning around. This will prevent the silk threads from running in the grooves, which would cut the threads or

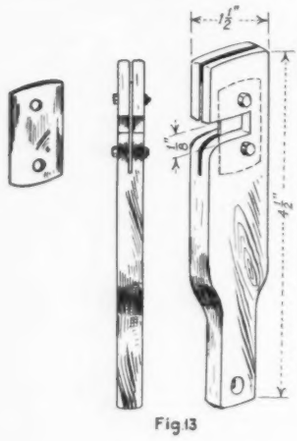


Fig.13

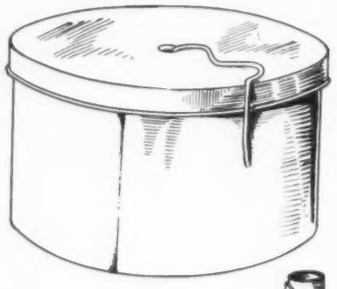


Fig.14

Fig.15

damage the gum, making a lousy appearing warp and producing fuzziness, thereby decreasing production and making defective merchandise.

It is very important that a fixer also be familiar with several weaving knots. Let us consider for a moment what benefits a fixer will derive by knowing such knots. For instance, the knot in Fig. 11 is one of several that are used in splicing two ends together—one from the harness and the other from the warp. In straightening leases, the custom in many mills is for the weaver to break out the ends which are tangled and draw the tied end through the harness with the heddle hook. This makes extra work for the weaver and cuts down on production; whereas, by using the knot shown in Fig. 11, the drawing-in process is entirely eliminated.

The fixer should instruct his weavers in the manner of mastering this knot. The end *I* is in the harness and has been broken at *L*. The end *J* is on the warp and has been broken back on the beam so that a piece had to be tied on to bring it up to position *K*. The end *K* is held with the right hand, the end *L* with the left hand. Next the left thumb and forefinger hold the two threads together at *K*2 while the right thumb and forefinger are forming the loop as shown. After the loop is formed, the first and second finger on the right hand are passed down through the loop as at *K*3 and the thumb of the same hand pushes the end *K* down where the two fingers can reach it and draw it back up through the loop as at *K*4, forming a slip knot. This knot is next drawn forward with the two first fingers of the right hand, the left hand still holding the position as at *K*2. Then the thumb of the left hand shoves the end *L* down on the right side of the thread just tied, and the first and second finger of the left hand are placed down at *M* in the loop just formed and pull the end *L* up through the loop, completing the knot. This knot is now drawn tight and slipped up against the first one, making a knot which will pass through the heddles easily.

With a little practice this can be tied without making a loose end, and the thread will have the same tension as the others. A fixer should master this knot thoroughly before attempting to instruct his weavers how to tie it.

In Fig. 12 is shown a knot used for repairing smashes. The piecing bobbin *N* is suspended on the cord, which is shown fastened to the loom side. Note the spring which has been inserted between the end of the cord and the loom frame. Whenever a new bobbin is needed, the loop knot is unhooked from the spring and the bobbin replaced. Using this device saves time and also keeps the cord under tension at all times. In most smashes a double end is tied with two piecing bobbins; and the resulting knots, on weaving through the harness, break out and leave a bad mark in the cloth. However, with this knot only one piecing bobbin is used.

The broken end back on the warp or lease rods at *Q* is shown two ply, the end *S* passing through the loop *P* as in sketch 1. Sketch 2 shows the end *S* formed into a slip knot. This is drawn tight and a second slip knot tied in the same manner, after which the end *S* is cut off close to the knot. This leaves the end from the piecing bobbin two ply, the same as the warp end, the ends *N* and *O* being drawn through the heddles. The resulting knot will be small and capable of passing through the heddles without undue breakage and will not be conspicuous in the goods.

The advantage in using good knots lies, of course, in keeping the section running and at the same time saving cord and time. Obviously, the man who has taught his fixers to tie neat knots will have a section that he may be proud to manage.

A simple little tool which has its place in knot tying is the thread cutter shown in Fig. 13. This has been made from a safety razor blade and a piece of soft pine wood 4½ in. long, 1½ in. wide, and ¼ in. thick. The wood is sandpapered down smooth. A groove is cut in one end with a hacksaw, so that the razor blade will fit into it as shown in the sketch. The blade is held in position by the use of two stove bolts, which fit through the original holes in the blade.

In operation the cord is passed through the opening and drawn against the sharp edge of the blade, which cuts it in two. There is absolutely no danger of cutting one's fingers with this device; and, by placing a hole in the handle end, this little cord-cutting tool can be hung up beside the cord ball ready for instant use.

Every fixer knows what a tangled mess the cord ball will become when nearly used up. The illustrations in Figs. 14 and 15 show clearly how to overcome this trouble. A can which formerly held hand soap is used by punching a hole in the lid and running the end of the cord out through the hole. This may be carried about when in use. The sketch in Fig. 15 shows a bracket to which the can is fastened and which is screwed into the side of the bench or on the wall nearby. In this case the end of the cord is brought down through the bottom of the can instead of up through the lid.

Such articles as the two last described are easily made, and often effect considerable saving in time.

Hosiery Length Standards *Approved at Philadelphia*

COMMERCIAL standards for hosiery lengths were adopted at a general conference held, Thursday, Oct. 29, at the Benjamin Franklin Hotel, Philadelphia, in which representative hosiery manufacturers participated. This conference was called following recommendations of the National Association of Hosiery & Underwear Manufacturers based upon records maintained by E. M. Schencke, of the Department of Research of the Association in the Bureau of Standards, Washington.

The meeting, while not very largely attended, brought together representatives of several of the leading factors in the industry. L. R. Gilbert, of the Division of Trade Standards, U. S. Dept. of Commerce presided. In opening the session, Mr. Gilbert described the method of procedure in the adoption of trade standards, following the recommendations of a trade association, a firm, or individual. He called attention to the fact that the Bureau of Standards has not formulated the proposed standards, but that the standards had come from the hosiery industry itself.

Inasmuch as the measurements are already in more or less general use, there was no necessity of calling a preliminary conference. Following their adoption at Philadelphia, they are to be submitted to a standing committee of manufacturers, distributors, etc., for the purpose of consideration of revisions. Following the definite action, efforts will be made to secure their acceptance by manufacturers, distributors, and retailers, and if they are adopted by representatives of 65% of the production volume, they will be presented in printed form. The lengths as approved last week are given at the close of this report.

In opening the discussion, opinion was expressed by several factors that it was necessary not only to consider standards of length, but also other dimensions as well as equipment and yarns. However, it was pointed out this conference was only to consider the question of standard lengths, and that the other factors would receive attention in due time. The method proposed for standardizing measurements was adopted without question, as well as the purpose of the standards.

In the matter of standard length for women's hosiery, 30 in. was proposed as the standard measurement, with a tolerance of 1 in. more or less. There was a feeling that there should be some variation from this figure for seamless hosiery as well as for different types of stockings such as novelty lines or open work fabrics where there might be more stretch when the stocking is worn. It was felt, however, that 30 in. was meant for staple goods only. W. F. Carr, of the Durham (N.C.) Hosiery Mills said there should be a different standard for seamless hosiery of less than 30 in., while others felt cheaper grades should have a greater tolerance than 1 in.

G. C. Aberle, of H. C. Aberle Co., Philadelphia, stating he also represented the hosiery group in the Philadelphia Textile Manufacturers Association, said it was necessary to start with a definite figure and that in his opinion, 30 in. was generally accepted as a standard. Mr. Carr expressed the opinion that nine-tenths of the manufacturers of seamless hosiery did not follow that standard. Discussion led by Mr. Schencke of the Bureau of Standards indicated the feeling that it was a question of what the customer wanted. Mr. Schencke stated they had compiled figures on this point since 1926; at that time the standard was 27 in., but since then there has been a tendency to a longer stocking so that to-day he has found 30 in. the average length. The recommendations for women's hosiery were finally adopted.

In discussing the proposed standards for men's half hose, Ernest Blood, John Blood & Co., raised the question as to the length of the boot in conjunction with the ribbed top. He felt that in an 8 in. boot and 6 in. ribbed top, there was a lack of proper proportion. It also developed that the U. S. Quartermasters Department in its contracts for half hose for the Army did not admit of any minus tolerance, so that 14 in. length was their minimum. The proposed standards were adopted including $\frac{1}{2}$ in. tolerance.

Chas. C. Schoneman, president of the Bla-Shone Hosiery Corp., Philadelphia, called attention to the fact that the proposed standards did not include two important lines, children's flat goods, and misses' shaped; also that misses' ribbed hosiery was almost obsolete. The recommended standards for boys' golf hose were adopted and also those for children's and misses' ribbed goods. C. G. Squibb, president, the Hub Hosiery Mills, Lowell, Mass., stated that he felt the proposed lengths for children's and and misses' ribbed hosiery, 15 to $26\frac{1}{2}$ in. depending on size, were too short from the basis of consumer requirements. He made the same comment regarding the $10\frac{1}{2}$ to $18\frac{1}{2}$ in. lengths proposed for the $\frac{3}{4}$ hosiery.

There was considerable discussion as to the reason for maintaining the present nomenclature of $\frac{7}{8}$, $\frac{3}{4}$ and $\frac{5}{8}$ hosiery, and as a result of the opinion that there was today no real necessity of continuing the $\frac{5}{8}$ class, this class was combined with the $\frac{3}{4}$. Mr. Squibb's figures on children's flat goods were adopted. *(Continued on page 81)*

▼

Standing Committee

Appointed by L. R. Gilbert to pass finally on the Hosiery Length Standards

John W. Mettler, Interwoven Mills, Inc.; R. W. Moorhead, Moorhead Knitting Co.; Theo. Friedlander, Phoenix Hosiery Co.; W. F. Carr, Durham Hosiery Mills, all representing manufacturers of men's hosiery. John N. McCullaugh, Berkshire Knitting Mills; Roy E. Tilles, Gotham Silk Hosiery Co., Inc.; J. H. Zens, Milwaukee Hosiery Co.; Wm. Meyer, Apex Hosiery Co., all representing manufacturers of women's hose. C. G. Squibb, Hub Hosiery Mill; J. Lee Bausher, Infants' Socks, Inc.; H. C. Belber, Sport-Wear Hosiery Mills Inc.; R. C. Aycock, Aycock Hosiery Mills, representing children's lines. Other members of this standing committee include G. C. Aberle, H. C. Aberle Co., representative of the Philadelphia Textile Manufacturers Association; Flint Garrison, Wholesale Dry Goods Institute; also representatives from the National Retail Dry Goods Association, National Association of Retailer Clothiers and Furnishers, American Home Economics Association, and the General Federation of Women's Clubs to be named later.

Level Shades and Fast Colors

Test Skill of Silk Piece-Goods Dyer

*By Walter M. Scott, Ph.D.**

WHEN we consider the antiquity of the silk industry as a whole and reflect that the Chinese were dyeing silk in skeins over 2,000 years ago, we realize that the practice of dyeing silk in the piece is of comparatively recent origin. Although this method of silk dyeing has been developed within the last 50 to 75 years, it has progressed so rapidly within recent years that, to a very large extent, it has now supplanted the older method of dyeing in the skein.

At first the popularity of silk piece dyeing was due in a large measure to the fact that it made possible the introduction of many new and interesting types of fabrics. The more recent enormous growth of piece dyeing in the silk industry is, however, a direct result of the modern demand for quick deliveries, and the fact that the rapid change of color fashions makes it unprofitable to carry large stocks of colored fabrics, particularly in the dress-goods field. Not only has the silk piece dyer inherited many of the problems which confronted the skein dyer, but also has acquired new problems peculiar to the art of piece dyeing.

Thorough Degumming Essential

The first essential in piece dyeing of silk is to obtain complete removal of the gum. Improper boil-off is often responsible for the unevenness of color in the dyed pieces, which is very apt to be attributed to faults in the dyestuffs or the dyeing procedure. A great many special products have been developed and recommended for the degumming of silk, but in the opinion of the writer there is nothing better for this purpose than a good grade of neutral soap. At first it was thought that nothing but olive oil soap was suitable for the processing of silk, but intensive studies made independently by different investigators indicate that a neutral soap made from a low-titer red oil is satisfactory. Soap employed for boiling-off silk should exert the maximum of solvent action on the silk gum and at the same time should be relatively easy to remove from the degummed silk by washing. An advantage of a soap composed chiefly of sodium oleate is that the metallic soaps of oleic acid, such as magnesium or calcium oleate, are relatively liquid at the boiling temperature and do not adhere to the silk; this property is particularly essential when only unsoftened water is available for degumming.

A good boil-off bath should contain approximately 1% of neutral soap (containing 30 to 35% water) and should have a pH of 10 to 10.5. The temperature should be kept above 200° F., as the rate of solubility of the silk gum (i.e., sericin) diminishes rapidly below this point. The time required for complete removal of the sericin is a variable factor, depending upon the nature of the goods. A heavy crepe or a tightly woven twill may require from 2½ to 3 hr., while a Georgette crepe or a voile may be completely degummed in 1 hr. It is necessary to determine separately the optimum boiling time for each individual style of fabric. After the silk is removed from the boiling soap bath it should be washed immediately—first in a hot alkaline solution containing a small amount of ammonia, soda ash, or trisodium phosphate; and then in several changes of hot water.

Equipment Used

Many mechanical devices have been developed for the handling of silk fabrics during the degumming process. The objective of most of the later attempts has been to make the process a continuous one, and thus save time and labor. For some fabrics, these developments have not proved to be entirely successful, and the best qualities of silk are still obtained by hanging the silk on a frame and immersing it in the bath in such a way that the boiling soap solution is enabled to circulate freely between the folds of the fabric. It is quite feasible, and in fact, desirable, to perform the subsequent washing on some form of continuous machine operated on the counter-current system, so that the silk emerging from the machine is in contact with the incoming supply of fresh water.

After the silk has been boiled-off and washed, it is ready for dyeing. Ordinarily, piece dyeing of silk is carried out in an overhead reel bark. The silk in a continuous piece is carried from one end of the bark over the rotating reel and is delivered into the other end of the bark. It is then drawn through the dyebath, under the reel to its starting point at the other end, and so on around again. In recent years it has been found that the best results are obtained with reels of relatively large diameter and elliptical in shape. These reels are usually constructed with a metal framework, which is covered with some type of coarse cotton cloth. The dye boxes may be constructed of wood, copper, or monel metal.

When no special fastness requirements are involved, the particular problem of the piece dyer is to obtain the required shade uniformly throughout the entire fabric. For this purpose it is not necessary to have a large variety of dyestuffs in stock, but great care should be exercised in the selection of the few types which are to be used. The following acid dyes have been found to be satisfactory for the level dyeing of silk piece goods: Patent Blue V (C.I. 712), Fast Acid Violet 10B (C.I. 696), Orange II (C.I. 151), Azo Fuchsine 6B (C.I. 56), Azo Fuchsine G (C.I. 29), and Fast Light Yellow 3G (C.I. 639). Practically any desired shade may be obtained from some combination of the above-mentioned dyestuffs, although in the case of a few delicate or particularly brilliant colors it may be necessary

*Consulting Chemist with the Esselen Laboratories 73 Newbury St., Boston, Mass.

to introduce small quantities of the clearer and more brilliant basic dyes, such as Rhodamine B (C.I. 749), Brilliant Green (C.I. 662), and Methyl Violet (C.I. 680). It must be remembered that Patent Blue V becomes greener, and Fast Acid Violet 10B becomes redder under artificial light. If it is desired to produce a blue which will maintain approximately the same shade under both daylight and artificial light, a proper balance of these two dyestuffs must be maintained in the formula.

Gum-Soap Liquor

Sulfuric acid is generally used in the dyebath to exhaust the dyes; and there must also be present some buffer which will prevent the color from going on too rapidly, and hence unevenly. The gum-soap liquor from the boil-off bath has been used for this purpose for a good many years whenever it is available. When acid is added to this liquor, an emulsion is formed which has proved to be an ideal medium for the dyeing of acid colors. The only precaution to observe is to have the acid strong enough so that the pH of the dye liquor is well below 4. The iso-electric point of sericin is in the neighborhood of pH 4, and at this point it loses its property of sustaining the emulsion. Consequently we have what is known as a "broken soap bath," which results in the silk becoming greasy and unfit for finishing without cleaning and redyeing. If boil-off liquor is not available, certain buffer salts—such as sodium sulfate, sodium acetate, or disodium phosphate—may be used.

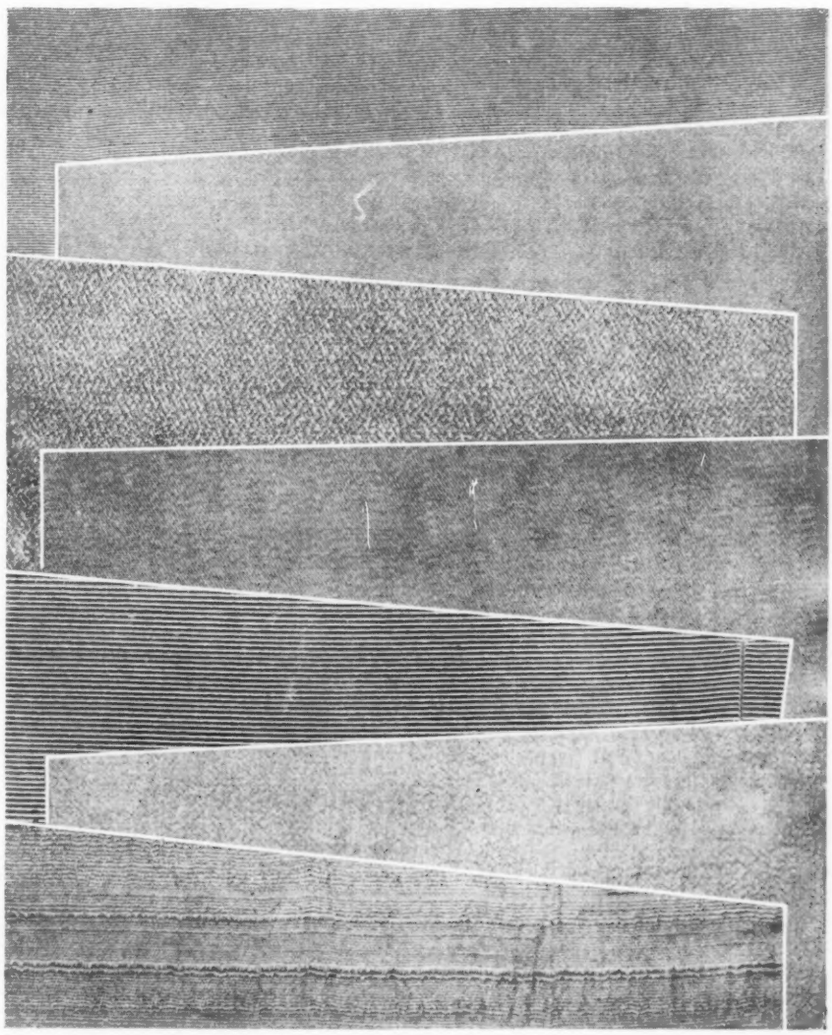
It is customary to dye at temperatures ranging from 180 to 200° F. The dyebath is heated to the higher temperature, and the goods are then immersed and run in the cooling bath. Several times during the dyeing process the silk is removed, and the bath is reheated to 200° F. before the goods are again entered. The dyes which are mentioned above have the property of going on and off the silk to a certain extent with the raising and lowering of the temperature, and they are thus enabled to distribute themselves evenly throughout the piece.

This general method of procedure is suitable for the dyeing of all the common fabrics which are met with in the silk industry. The following types which are illustrated in this article, are handled frequently by the modern piece dyer: georgette crepe, crepe de chine, crepe faille, satin crepe, satin, and shiki. Even in the case of a bengaline which is composed of both silk and wool—but with the silk appearing exclusively on the surface—it is not necessary to make much change in the dyeing procedure as outlined above. However, it is well to remember that prolonged immersion at 200° F. or above will tend to drive the dyes more on to the wool at the expense of the silk.

An excellent black may be obtained with Acid Black 4BF. In order to reduce to a minimum the possibility of "crocking" it is advisable not to use the boil-off liquor when this particular color is employed. The dyebath is made up in the first place with a small amount of acetic acid. As the dyeing proceeds, additional quantities of acetic acid are added from time to time, and finally a little sulfuric acid is added to exhaust the color as completely as possible. For 10 to 15% of the dyestuff is required to obtain a full shade of black.

Whenever specific fastness requirements come into consideration, the piece dyer must subordinate his desire for level-dyeing dyestuffs to the necessity of choosing those dyes which possess the greatest fastness for the purpose in question. Often the dyes which are the most satisfactory from the standpoint of fastness, are the most difficult to dye evenly. Therefore the dyeing procedure must be modified, and the dyer must exercise his ingenuity to produce colors of satisfactory uniformity.

Let us first consider the question of light fastness. This is not as important in the field of silk piece dyeing as it is in the skein dyeing of yarns to be woven into decorative and upholstery fabrics. However, a few types of piece-dyed silks such as shiki or corean silk are used quite extensively for draperies, and must be dyed to give satisfactory resistance to fading in sunlight. Fortunately, it is possible to select a range of *(Continued on page 85)*



Crepe faille, crepe de chine, stain crepe, satin, bengaline, georgette crepe, and shiki are frequently piece dyed

Lhowe Heads Outerwear Association; Intensive Activity Planned

A REORGANIZATION of the activities and functions of the National Knitted Outerwear Association which will better fit it to concentrate on the new problems arising out of the prolonged depression, is now in process, it was learned this week, following a meeting of the executive council of the organization held in New York. The meeting was the first since the resignation of Ellery B. Gordon, as managing director, and one of the important steps taken by the council was to elect Harold R. Lhowe, of New York, as managing director to succeed Mr. Gordon.

Mr. Lhowe has been identified with the association since it was founded, and is thoroughly familiar with its problems. He has served as counsel to the association for many years, and has taken a leading part in many of its activities, particularly the recent issue of trade conferences and the functions and powers of the Federal Trade Commission.

Interviewed by a TEXTILE WORLD representative this week, Mr. Lhowe said it was too early to disclose the full scope of the association's new plans, but he made it clear that the organization plans to exercise close supervision over the welfare of the knitted outerwear industry as a whole.

The executive council at the meeting discussed plans for a more intensive presentation of the position of the knitted outerwear industry with respect to various important industrial and business problems.

Those present at the meeting included the president, Daniel Rheinauer, of New York Knitting Mills, the vice-president, William Portner, of Franklin Sweater Mills of Philadelphia, the treasurer, Daniel Starr, of Starr Knitting Mills of Brooklyn, N. Y., John J. Phoenix of Bradley Knitting Co. of Delevan, Wis., and the association's counsel, Mr. Lhowe.

On behalf of the tariff committee, Mr. Phoenix called the attention of the Council to the efforts now being made by those interested in foreign loans, to lower the tariff protection of American industry and so enable foreign manufacturers, by importing merchandise, to prosper at the direct expense of American labor and capital, and urged that every effort be made, in conjunction with other industries of the country, to impress upon Congress at its next session the necessity for defending American manufacturers.

Careful consideration was given to the present status of the Trade Practice Rules submitted to the industry by the Federal Trade Commission for acceptance or rejection and the counsel for the association was instructed to prepare and submit to the directors, his opinion with respect to the proposed changes suggested by the commission.

It was the consensus of opinion that the present social and economic unrest would cause the introduction in Congress and State legislatures of many radical bills, suggesting experiments inimical to the interest of industry and trade, and it was resolved to urge the membership and the regional organizations to strengthen their power and the efficiency of their organizations more adequately to cope with these situations as they arise.

The council appointed Daniel Starr, the treasurer, as secretary until the next annual meeting of the membership of the association and appointed Mr. Lhowe as managing director.

A sub-committee was appointed to consider and submit for the action of the Council, preliminary to submission to the general membership, such changes in the by-laws of the association as may be necessary to improve the efficiency and strength of the association and fit it better to undertake the tasks that lie before it.

After the meeting Mr. Lhowe announced that the New York offices of the association would be removed from 347 Fifth Ave. to 1 Madison Ave. It is planned to have a special suite for the association there.

It was also announced that the annual meeting would take place during January or February, 1932, the exact time and place to be decided later.

▸ Lelong Hails Cotton as Quality Fabric

Lucien Lelong, distinguished French couturier, addressing a luncheon audience of over 400 members of the Fashion Group at Sherry's, New York, last week, spoke in glowing terms of the beautiful cotton fabrics which are now being made—"fabrics made adaptable to endless uses, and which to the contrary of looking cheap often look very rich indeed." He said that much cotton would undoubtedly be seen in the next Paris collections.

▸ Navy Asks Bids on Textiles

The Navy Department has invited bids on 300,000 yd. mercerized cotton airplane cloth, grade A, 36 in. wide, bids to be opened at Washington, 10 a.m., Nov. 10, and on 20,000 yd. unbleached cotton cheesecloth, 36 in. wide, bids to be opened 10 a.m., Nov. 17.

▸ 5,000 See "Quality Control" Film in Month

Within the last 30 days the rayon sales training motion picture which describes the important steps in The Viscose Co.'s "Quality Control Plan" has been shown to 52 department stores, a total of more than 5,000 sales persons. This two-reel film, which takes twenty-five minutes to show, has been received with enthusiasm by sales training heads and buyers alike, the company stated, several stores including John Wanamaker, Inc., of Philadelphia, and L. Bamberger, of Newark, having shown the film twice. The film is designed to help stores sell rayon merchandise, through training their sales staffs to a better understanding of rayon yarn.

▸ New Rayon Price Lists

Industrial Rayon Corp. announces the folowing new prices, as of Oct. 23:

PREMIER RAYON

Denier	Filament	Bleached Skeins First	Bleached Skeins Second	Unbleached Cones First	Unbleached Cones Second
75	18	$1.20	$1.10	$1.25	$1.15
100	40	1.00	.90	1.05	.95
125	50	.90	.80	.95	.85
150	30	.72	.70	.75	.....
150	40	.75	.72	.78	.75
150	60	.85	.82	.88	.85
200	40	.75	.72	.78	.....
300	60	.63	.60	.66	.....
450	60	.63	.60	.66	.....

Lustrous or delustered same price.

SPUN-LO

Denier	Filament	Cones	Denier	Filament	Cones
30	8	$2.25	150	40	$0.83
50	14	1.60	200	40	.83
100	28	1.15	300	60	.78
125	34	1.05			

American Enka announces the following new prices, at of Oct. 26:

Denier	Filament	"A"	"B"
75	18–24	$1.20	$1.10
100	18–40	1.00	.90
150	40	.75	.72
150	32	.75	.72
150	24	.75	.72
200	32	.75	.72
300	42	.63	.60
150	Unbleached knitting cones "Perlglo" (soft luster)		.75
100	40	1.00	.90
150	60	.85	.82
150	40	.75	.72

▸ Less Spindle Activity; More Cotton Consumption

Consumption of cotton in the United States for the month of September, according to figures compiled by the Dept. of Commerce, amounted to 463,704 running bales, as compared with 393,390 bales for the corresponding month in 1930. Cotton spindles active during September totaled 25,236,916, showing a decrease of 829,594 spindles from the number of active spindles during the same month last year.

▸ Large Sale of Henequen

The sale of 150,000 bales of henequen fiber to the International Harvester Co., of Chicago, is reported from the Yucatan. The sale is said to involve about $1,500,000.

▸ British Textile Fair in February, 1932

The booking of space for the textile section of the British Industries Fair which will be held Feb. 22 to March 3, 1932 is progressing satisfactorily, Trade Commissioner William L. Kilcoin, London, informs the Department of Commerce.

Practically all sections of the textile

industries are supporting this enterprise, and it is reported that the 40,000 sq.ft. of stands originally offered has proved inadequate. The Federation of Master Cotton Spinners have taken a stand of 1,050 sq.ft. and at a meeting of the National Association of Scottish Woolen Manufacturers held recently £1,000 was allocated for space at the fair.

▸ Three Big Problems Cloud Silk Market

Conditions in the raw silk market "continue to be clouded by the three-fold threat of war between China and Japan, the continued export of gold from Japan to support the yen, and the uncertainty over the size of the summer and autumn cocoon crops," says the *Textile Organon,* published by the Tubize Chatillon Corp. "It appears to us in the first case that the forces of pacification are stronger than the Japanese military element and that open warfare will be averted. The proposed gold export tax of 2%, if put into effect, would tend to protect the yen, and further, it would tend to raise Japanese prices. The elimination of the supply element as a price consideration, as soon as the cocoon crop is known, would focus attention on the demand and simplify the problem somewhat.

"Our analysis of the silk situation, weighting the above factors as we expect they will be solved, continues to indicate that silk prices should be steady to strong for the rest of the year. No such increase in silk consumption as occurred last year is expected to materialize this year, principally because of the restabilized rayon situation."

Jack Card Discusses Three Shifts—and Molasses

Editor, TEXTILE WORLD:

It is good news, of course, that one worsted mill has enough business to warrant three-shift operation, and consequent employment of several hundred more people. Even though I do not favor night operation, from either social or economic considerations, I hand it to the man who can sell enough goods these days to warrant it.

The only thing that puzzles me is the trade talk which followed this announcement. It is interpreted in some quarters as a possible start of a general "trend" toward the three-shift basis. But I have yet to find any statistical evidence of business to justify such a "trend"—strike or no strike.

We all want to see a maximum number of people employed, but such employment must be balanced with demand if we are to avoid still greater suffering in the future.

When I was a child, I spread my molasses over as large a part of the area of the saucer as possible—and got an illusion of more molasses. But textile manufacturers are not—or at least are not supposed to be—children. JACK CARD.

C. J. Callaway Appeals to A.C.M.A. to Obtain Higher Jute Tariff

APPEALING to cotton manufacturers throughout the country to exercise their influence in an effort to obtain adequate tariff protection for American cotton against the competition of jute and jute products, Cason J. Callaway, LaGrange, Ga., president of the American Cotton Manufacturers' Association, in a letter to the membership of that organization this week, stated that such tariff protection would automatically create new markets for over one million bales of cotton "with the added benefits all along the line arising from the manufacture of over 500,000,000 lb. of cotton."

Although Mr. Callaway did not attempt to discuss the merits and demerits of the present tariff, he specifically called attention to the situation with respect to jute, and indicated that consideration of this question would take place at the Fall meeting of the board of government of the American Cotton Manufacturers' Association which will be held at an early date.

"American cotton and cotton products are staggering under especially heavy burdens from the present tariff," President Callaway pointed out, "since it is causing foreign countries to retaliate for restrictions upon their exports to us by restricting purchases of American cotton to the minimum; and, furthermore, since jute and jute products, chiefly from India, are being admitted upon such favorable bases as to largely pre-empt home markets which rightfully belong to our American cotton growers and manufacturers, literally getting us 'going and coming.'

"The combined exports of all American products are only about 10% of the total production, but in the case of cotton the exports have averaged over the last 15 years around 60% of the production. Furthermore, cotton has been by far the most valuable item in dollar volume of our exports. It is natural, therefore, that the bad features of the tariff are affecting American cotton and cotton goods more than any other American product and industry. So it would seem but simple justice to those interests, since cotton must suffer the greatest losses from the bad features of the tariff, that it should be given every possible benefit from the good features of the tariff.

"The present bill places a tariff on Egyptian cotton as a protection to growers of long staple cotton but, of course, this affords no protection to the great majority of farmers who grow the average staples, as clearly shown by the fact that America exports 60% of this growth.

"As stated, jute is the import product which most seriously competes with our American cotton. The daily wage of an East Indian farm worker is 16c. and the average weekly wage of Bengal, India, mill workers is $1.80. The ability of the farmers and manufacturers of India to flood this country with their products rests solely upon wage scales and standards of living that no amount of American initiative, energy and skill can make up the difference. Our Government has wisely excluded paper and other products from Russia on the grounds of unfair competition with American workmen; certainly these products of India should be banned for the same reasons.

"It is likely that a comparatively small group of jute manufacturers and importers will bring to bear powerful opposition to a high protective tariff on jute and jute products. It is likely also that the enormously larger interests of the American cotton growers may not receive adequate representation. If the great mass of our people could be awakened to what it would mean, directly and indirectly, to open up this new outlet for over a million bales of cotton and to put thousands of workers on the jobs of making cotton yarns and cloths to replace jute, I believe there would spring into action an irresistible demand for the simple justice of an adequate protective tariff."

▸ Prepare for Textile's Part In 1933 Chicago World's Fair

An exhibit dramatizing the importance of the textile industry in modern civilization is being planned as one of the features of "A Century of Progress Exposition," Chicago's 1933 World's Fair.

The various branches of the textile industry, including silks, woolens, cotton goods, rayon, yard goods, men's, women's and children's wearables, hosiery, draperies, carpets, upholstery and home furnishings may be represented in this exhibit.

A special pavilion in which the story of textiles can be told is being planned. The development of textile exhibits is now being given specific attention by officials of "A Century of Progress." Already a number of manufacturers in the industry and producers of clothing and other products are considering plans for exhibits in the Exposition.

Exhibits by the textile industry, it is pointed out, may be in the nature of moving, active displays illustrating some process or phase of textile fabrication. The history of various textile products and the story of their evolution could be interestingly depicted. Such spectacles as the processing of cotton from the field to the finished cloth; the fabrication of wool from the sheep to the suit or overcoat; the story of silk from the cocoon to the finished product—these and others could be made into highly dramatic exhibits.

Overseers' Round-Table

THIS department offers a new subject for discussion each week and gives readers' comments on problems introduced during previous weeks. The subject which was opened four weeks ago is closed this week and a summary of contributed ideas is given on opposite page

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Overseers' Salaries

Editor, Overseers' Round-Table:

IN MY opinion overseers should be given an opportunity to *earn* more money than those in their department. However, it should be earned, not merely paid.

With the proper method of bonus payment for supervision, based on quality and production weighted with departmental cost, the overseer can earn more money through the increased efficiency of his helpers and his own efforts. These methods are simple yet very efficient and are used to advantage in many mills. They permit the workers, the overseers and the management to earn more money.

H. J. F.

Editor, Overseers' Round-Table:

THE OVERSEER is the top sergeant of industry. He comes the nearest to the workmen and their opinion of the company is largely formed by the treatment they get from their immediate superiors.

In a certain textile district the average overseer receives from $2 to $5 a week more than the help under his charge. This is not sufficient financial return to attract competent men. Those most willing to accept such positions are usually those without proper qualifications, consequently there are many misfits.

Is a cheap overseer really cheap? Here is an example: A department runs considerable overtime, at time and a half. The overseer plays favorites and his pets do things, such as taking five hours to do two hours' work and manipulating the tickets to cover it up; throwing away from 10 to 50 yd., if there happens to be a break that far from the end of a warp. In the case of a damask with 10,000 ends of 80/2 mercerized 50 yards means something—and this thing has been done. 10 to 25 yards off a warp is too common to attract attention.

There are three four-piece splitting frames, one bought recently. By putting a wider roller on the machines, at a cost of about $10 each, two colors could be split at a time. The overseer knows this but argues that "they turn off better work splitting two pieces." The fallacy of this argument is immediately apparent to anyone who knows the business and they do not turn off good work anyway.

This mill makes novelties requiring many splits and there is much splitting overtime, at time and a half, and of course the boss has to stay in—also at time and a half. In one season this item cost several hundred dollars more than it should. If they split more pieces at once a large saving would result. A suggestion to this effect was made and most emphatically rejected, perhaps because the overtime graft would be lost. The comedy feature, consisting of throwing things on the floor, slamming doors and windows, whistling, singing (?), etc.—the last two items especially loud when another man has a difficult job to do—is furnished by the overseer's brother, a mental defective, and a few helpers.

About Starting the You

"LAST Sunday," Superintendent Chase addressed the gathering of overseers, "I was sitting out on the porch by myself, doing nothing in particular, when my boy came out and startled me by asking whether I thought he should go into the textile industry when he was through with his education. Said it wouldn't be so long before he'd have to choose some line of work and he wanted my advice. At first I told him that there had never been any question in my mind whatever; that I always wanted him to follow along in my footsteps and presumed that he would do so. However, as I talked with him further it occurred to me that I really hadn't given the subject much thought and that I should do a little thinking before giving him advice. Now, quite a few of you have boys coming along and I'd like to find out what you think about their entering the textile industry."

"My father was in the textile business in the old days," Bill spoke up, "and it was just natural for him to start me off in the same line. I used to think that I'd start my boys in the business also, but lately I've had a lot of doubt. This textile industry is an old industry and it's pretty well settled down. As a result you find that things go along on a sort of routine basis and there isn't much chance for a young lad to do anything that will make him stand out. Further than that, the textile industry is not generally prosperous. This means that jobs don't pay as well in general as they do in new fields which are prosperous, and it means further that there isn't so much chance for a young fellow to work himself along to ownership, or part ownership, and get the rewards he would get in other lines. Another point is that there are a lot of old-timers in the industry who have been going along in one way for years and they don't give the young blood a chance to try out things and show results. I'd like to think that my sons would follow me, but, in honesty to them, I don't think that I can recommend the textile industry to them."

"Many of the points Bill brings up," Pete replied, "can be turned around and used as arguments in

Youngsters Off

favor of recommending the textile industry to a boy. For years many people have been saying what Bill said and the result has been that when a bright youngster got out of school he went into some other line where he thought chances were better. As a consequence the textile industry hasn't as many young lads as other industries. If you don't believe me just look around and try and think of the number of really good young men in the industry and I'll bet you'll be surprised how few you can name. Now, the textile industry isn't always going to have poor times. It is bound to work itself out. As far as old foggies, such as Bill mentions, are concerned, well, times are getting so that they have to make changes and get new ideas or they'll go under. Keeping in mind the scarcity of young talent in the industry, and the strong probability of the industry working itself into a prosperous condition, I think that textiles offer one of the greatest chances for a young man. Competition with other young brains isn't as keen as in apparently more attractive lines and there is a fine chance to have a part in the re-growth of the industry, which has already started."

◆

Do *you* want your son to enter the textile industry or do you think he will have a better chance in another line?

Overseers and others are invited to discuss this and other questions brought up in the super's talks. Letters accepted and published will be paid for without regard to length. Brevity is desirable.

All these conditions have obtained for a least fifteen years and while some of them have been modified somewhat there is still much room for improvement. As in all such cases the trouble is caused by a few but—get this—the overseer allows it.

Competent overseers is the answer. Why not consider it?

A. W. ORKER.

Editor, Overseers' Round-Table:

I POSITIVELY do not agree with my friend Bill when he speaks of the overseer making five bucks a week more than the better class of workers.

When I was a boy I often used to look at the overseer and wish I had his job—nothing to do but sit back, mark the time, walk through the room, and go home. Not many years after that I got a job as an overseer. At first I thought I was the stuff. Then it suddenly dawned on me the great responsibility resting on me. To a large extent I was responsible for every inch of yarn that was being spun in my room. Suppose the twist gear was wrong, the draft gear set too deep, the doffers mixing counts, the spooler hands tying long knots, the reeler hands breaking ends when taking off skeins, the balers sewing yarn to the burlap, or a thousand other things that come up in the daily life of an overseer—what then? Suppose some of the yarn I made left the mill in poor condition and the customer returned it or made a claim amounting to thousands of dollars, besides hurting the reputation of the plant which hundreds were depending upon for their daily bread. In addition an overseer must be a lawyer, doctor and a diplomat.

I often wonder if we stop to think what a good overseer can do. He can make or lose thousands for the company every year. I once knew of a mill where production was increased from 58,000 to 70,000 lb. per week, the seconds reduced from 2,200 to 10 lb., and the waste reduced from 1,500 lb. per week to 260 lb. This was accomplished by changing from a 25-year-old overseer receiving $7 per week more than the better class of worker, to a 42-year-old man who received $48 per week more than the workers. Does it pay to have well-paid overseers?—ask the successful superintendents!

W. W. M.

Editor, Overseers' Round-Table:

THE PERCENTAGE of pay which an overseer should get over that received by the operatives under his direction varies with local conditions, but should always be at least 10% more than that of the average of the better class workers under his control. There may be individual cases where an operator, especially on piece work, makes more than his overseer without injustice to the overseer, but such cases must be the exception, not the rule.

The consideration of steady employment cannot be overlooked and where the overseer works on a salary basis, with vacations with pay and pay for holidays these things must be considered.

While the exact amount that should be paid will always be a debatable question, I believe that the employer will find it to his advantage to pay a little more than necessary to keep the overseer on the job rather than to keep the pay down to a point where the overseer will be giving half his thought to the job, and the other half to considering if he would not be better off as an operator or working for some other company.

RAYMOND COOK.

◆

Summary of Discussion on Overseers' Salaries

Although practically all the contributions stated that it was almost impossible to determine the pay of an overseer on the basis of receiving a certain amount, or percentage, more than the average better class worker, several interesting points were brought out. It was frequently pointed out that the overseer had great responsibility and could make or lose a great deal of money for the company and that in many cases they did not receive an adequate return. Payment on the basis of the amount of responsibility was advocated by many letters as well as a bonus plan which allowed the overseer to earn more if he was worth it.

NEWS about MEN

Dr. Fritz Bluethgen, Dr. Eduard Boos, and **Prof. De Voes,** of Algemeen Kunstzijde Unie, better known as AKU, Amsterdam, Holland, are visiting the American associates of their company, American Bemberg Corp., and American Glanzstoff Corp., New York. Dr. Bluethgen and Mr. Boos are directors of the American companies.

Edward Moir, president of Crown Mills, Marcellus, N. Y., observed his 85th birthday recently. He is actively engaged in the management of his plant. In remembrance of the occasion the overseers of the mills gave him a basket of 85 roses. Mr. Moir, born in Scotland, went to Canada at the age of seven, and became a U. S. citizen about 50 years ago. When he was 21 years old he had built his first mill. Eventually he bought the Chester Moses plant and built the Crown Mills at Marcellus.

Henry T. G. Dyson, president and treasurer of the Hudson (Mass.) Worster Co., has been elected vice-president of the Hudson National Bank.

T. Belanger, a former vice-president of the discontinued Champlain Silk Mills, Whitehall, N. Y., will be president and general manager of Champlain Spinners, Inc., which will run the old plant. **James E. Shinners** is first vice-president, **John W. Greene,** second vice-president, **Harold A. Scott,** treasurer, and **Junior Cooke,** secretary.

Richard H. Wheeler, formerly vice-president of Dyersburg (Tenn.) Cotton Products Co., has replaced **Ladd J. Lewis, Jr.,** as president. Other changes in personnel have occurred in the company in the last four months as follows: **William H. Merriman,** Utica, N. Y., was elected vice-president, in charge of plant operations; **E. L. Amis,** formerly of the staff of Ernst & Ernst, New York, is now secretary and treasurer.

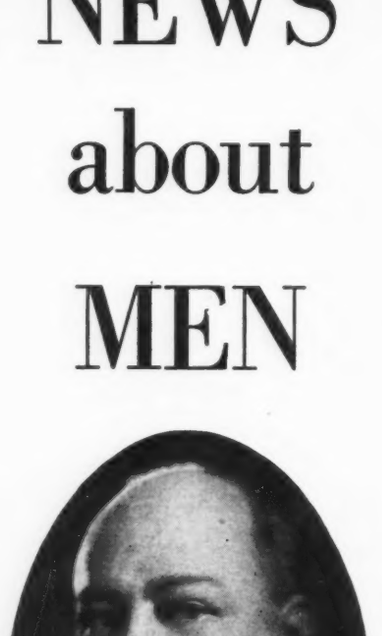
William B. MacColl, secretary-treasurer of the Lorraine Mfg. Co., Pawtucket and Westerly, R. I., and a director of the Cotton-Textile Institute, has been elected a director of the Blackstone Valley Gas & Electric Co.

Fred S. Gilley, of Fred S. Gilley & Co., Inc., Boston, Mass., worsted yarn dealers, has acquired a private pilot's license, and completed a course in cross-country work. Mr. Gilley uses his plane regularly to shorten time consumed between business contacts.

Charles Carter, manager of the Portland (Ore.) Woolen Mills, has been appointed chairman of National Wool Week, for the Portland district.

William H. Entwistle, general manager, Entwistle Mfg. Co., Rockingham, N. C., has been elected president of the Rockingham Railroad at a meeting of the board of directors.

Harry Sarfert, formerly manager of the Burlington Hosiery Mill, Philadelphia, which is now Torresdale Hosiery Mills, part of the Marshall Field Mills Corp., is treasurer of the Pottstown (Pa.) Silk Throwing Co.



W. S. Pepperell, president of the Hebronville Warehouse & Processing Co., Hebronville, Mass., has been elected treasurer of the National Association of Cotton Manufacturers to succeed Frederick Flather, Jr., of Boott Mills, Lowell, who resigned. Mr. Pepperell has been prominent in the New England cotton industry for some years.. He is president of the Southern New England Textile Club and served as head of the Rhode Island Textile Association for two years. Previous to being president of the Hebronville company Mr. Pepperell was treasurer of Warren (R. I.) Mfg. Co. While in the fine goods section of the industry he was active in the work on the tariff and contributed much to the efforts which resulted in more adequate protection for the American manufacturers of cotton goods.

Dr. F. A. C. Zeidler, Toronto, Ont., Canada, former head of the Dickinson Dye Works, Ltd., Toronto, has opened a chemical laboratory for consulting and research work, at 143 College St. He will specialize in textile dyeing, finishing, and bleaching problems.

Emery L. Lasier has tendered his resignation as general laboratory and business manager of the United States Testing Co., Inc., Hoboken, N. J. Mr. Lasier is leaving to resume his private practice of consulting and industrial engineering. **D. E. Douty,** vice-president and general manager of the testing company, in paying high tribute to his assistant, says that Mr. Lasier's resignation will be accepted with sincere regret and that he will continue to serve the company in an advisory capacity.

P. W. Frisk, head of the chemistry laboratory of the American Enka Corp., Enka, N. C., will be a speaker at the joint convention of the North Carolina section of the American Water Works Association and the North Carolina Sewerage Works Association. His talk will be, "Manganese in Reservoirs, and How It Can Be Eliminated." The meeting will be held Nov. 2 to 4, at the King Cotton Hotel, Greensboro, N. C.

John J. Jenney, industrial engineer for Cheney Bros., South Manchester, Conn., silk manufacturers, has been elected commander of the Dilworth-Cornell Post of the American Legion.

David Singleton Cook, agent of the Opelika (Ala.) Division of the Pepperell Mfg. Co., Biddeford, Me., will be in the New York office as "liaison" man. His work will involve maintenance of uniform quality, and he will also set up new lines. In the accomplishment of these duties he will travel between the selling office and the mills which are at Lindale, Ga., Opelika, Ala., Fall River, Mass., Lewiston, Me., and the headquarters at Biddeford, Me. **Homer M. Carter,** as reported in Oct. 31, TEXTILE WORLD, superintendent, and buyer at the Opelika plant, will assume Mr. Cook's former duties there.

Ellis John Barlow, a department head at the Industrial Rayon Corp., Covington, Va., has just been married to Miss Rowena Jane Gunsalus, of Watertown, Conn.

W. P. Drumheller, general superintendent of the William Carter Co. plants, with headquarters at Needham Heights, Mass., and Mrs. Drumheller, have been visiting in Macon, Ga., where there is a branch mill. **William Carter** accompanied them, but left for the North several days in advance.

D. W. McLemore, former superintendent of Hartsell Mills, Concord, N. C., more recently connected with the Davidson (N. C.) Cotton Mills, has been named superintendent of the Dillon (S. C.) Cotton Mills.

Thomas Kane, former superintendent of the Brick City mill of the Channing Smith Textile Corp., Cherry Valley, Mass., is now overseer of picking for the Coe Woolen Co., Worcester, Mass.

E. D. Brady succeeds **William A. Ryder,** who has resigned, as assistant superintendent of the Waucantuck Mills, Uxbridge, Mass.

George E. McClellan has been appointed chief supervisor of plant No. 1 of the DuPont Rayon Co., Old Hickory, Tenn., to replace **E. R. Gallalee.** Mr. Gallalee was transferred to the cellophane division. **Earl E. Swennson,** assistant area supervisor, will be area supervisor of plant No. 1. **S. L. Stabler,** shift supervisor, is appointed assistant area supervisor, chemical and spinning area. **Cayce Brush,** shift supervisor, has been transferred from plant 2-B spinning and chemical area, to plant No. 1.

Harry E. Loy, until recently associated with Mill Associates Inc., New York, has joined the selling staff of the Old Town (Me.) Woolen Co., Inc., and will have his headquarters at the New York office. Mr. Loy was at one time connected with the Nashua (N. H.) Mfg. Co., when their sales were handled by Amory, Browne & Co.

Charles L. Hall, Jr., of the Southern Yarn Co., Chattanooga, Tenn., has been made the representative of Textiles, Inc., Sales Co., Gastonia, N. C., for Kentucky, Tennessee, Alabama Georgia, and Mississippi.

Fred L. Beale, at one time with the Clydesdale Worsted Co., Woonsocket, R. I., in the production end of the business, has taken charge of sales of topcoatings and overcoatings made by the Gloversville (N. Y.) Knitting Co.

William Duncan has been appointed New York representative of the Glasgo (Conn.) Finishing Co., and the Beachdale Finishing Co., Voluntown, Conn. His offices will be at 40 Worth St. Mr. Duncan was formerly with Tilton & Keeler, New York.

D. M. McKenna, a salesman associated with Federated Textiles, Inc., New York, for four years, joined James H. Dunham & Co., New York, Nov. 1.

F. L. Holliday has resigned as overseer of finishing at the Avondale Mills, Sylacauga, Ala., to accept a similar position with the Eagle and Phenix Mills, Columbus, Ga.

E. P. Green is now overseer of carding at the Osceola Mills, Inc., Gastonia, N. C. **W. C. George,** formerly with the Osceola company, has been appointed night overseer of carding at the Woconee Mills Co., Westminster, S. C.

Lloyd R. Pettit, formerly in charge of night top dyeing at the Stillwater Worsted Mills, Inc., Harrisville, R. I., has resigned to take a position with the Amoskeag Mfg. Co., Manchester, N. H.

Obituary

George Watson Beach

George Watson Beach, formerly head of Beach & Co., Hartford, Conn., and president of the Beacon Falls (Conn.) Woolen Mills, died Oct. 26 at his home, Cornfield Point, Saybrook, Conn. He attended Cheshire Academy and Trinity College. Following his graduation Mr. Beach joined Beach & Co., Hartford, dealers in dyestuffs, a firm which was founded by his father. Later he went to Beacon Falls and founded the woolen mills. He continued as president of the latter company for several years, and then moved to Boston, Mass., to become president of the Scandinavian Belting Co. Mr. Beach's next move took him to New York to become a member of Beach & Barnard, manufacturers' agents. He is survived by his widow and three sons.

Simeon W. Taylor

Simeon W. Taylor, retired, former superintendent of the A. D. Ellis Mills, Inc., Monson, Mass., died at his home in that town recently, aged 82 years. He was born in Staffordshire, England, and came to America as a young man, settling in Providence, R. I. He went to Monson in 1886, as superintendent, and remained there until his retirement.

Thomas Luther Curlee

Thomas Luther Curlee, aged 55 years, superintendent of the King Cotton Mills Corp., Burlington, N. C., for the last 19 years, died at his home in Burlington, Oct. 29, after an illness of several weeks. Before going to Burlington Mr. Curlee was superintendent of the Borden Mfg. Co., Goldsboro, N. C. He is survived by a widow, one son, two sisters and two brothers.

Wilkinson Knowles

Wilkinson Knowles, aged 65 years, who was superintendent of the D. G. Dery Corp., and the Amalgamated Silk Corp., Northampton, Pa., for many years, died at his home following a long illness. Mr. Knowles was a native of Bradford, England.

Joseph Bain, Sr.

Joseph Bain, Sr., overseer of dressing at the Crown Mills, Marcellus, N. Y., for 15 years, and working for the last 15 years in the same capacity at the Auburn (N. Y.) Woolen Co., died Oct. 26, at the age of 63 years. Surviving are his widow, four daughters and five sons.

Horatio H. Edgerly

Horatio H. Edgerly, 61, overseer in the Bates Mfg. Co., Lewiston, Me., died suddenly at his summer home on the shores of Lake Maranacook.

Edward J. Cooney

Edward J. Cooney, for many years an overseer at the former Channing Smith Textile Corp., Cherry Valley, Mass., died in the Worcester City Hospital, recently, after a brief illness. He was 67 years of age and had lived in Cherry Valley for more than 30 years.

Jay W. Sutherland

Jay W. Sutherland, foreman of the cutting department of Oneita Knitting Mills, Utica, N. Y., for 22 years, died recently at his home at the age of 50 years. Previous to his work at the Oneita plant, he was foreman of the cutting department of mill No. 2 of the Utica Knitting Co. for 4 years. Mr. and Mrs. Sutherland celebrated their silver wedding anniversary in 1930.

Textile Calendar

National Wool Week, nation-wide promotional campaign, Nov. 9 to 14, 1931.

Textile Forum, N.A.C.M., for overseers of carding, Chamber of Commerce Bldg., Boston, Mass., Nov. 12, 1931.

Silk Industry Week, Paterson, N. J., Nov. 14 to 21, 1931, including Silk Machinery Exposition, Nov. 14 to 21; National Silk Convention, Nov. 18 and 19; Paterson Silk Institute, Nov. 14.

Southern Textile Association, Spinners' Section (South Carolina), Fall Meeting, Spartanburg, S. C., Nov. 20, 1931.

National Association of Woolen and Worsted Overseers, 48th Annual Meeting, American House, Boston, Mass., Nov. 21, 1931.

American Society of Mechanical Engineers, Textile Division, Annual Meeting, Engineers Club, New York, Dec. 2, 1931. (Also annual meeting of parent organization.)

Southern Textile Association, Weavers' Section, Fall Meeting, Greenville, S. C., Dec. 4, 1931.

American Association of Textile Chemists and Colorists, Annual Meeting, Hotel Statler, Boston, Mass., Dec. 4 and 5, 1931.

Cotton Manufacturers Association of North Carolina, Fall Meeting, Carolina Hotel, Pinehurst, N. C., Dec. 4 and 5, 1931.

Textile Forum, N.A.C.M., for overseers of spinning, Chamber of Commerce Bldg., Boston, Mass., Dec. 10, 1931.

Wool Blanket Manufacturers, Quarterly meeting, New York, Jan. 14, 1932.

Textile Forum, N.A.C.M., for master mechanics, Chamber of Commerce Bldg., Boston, Mass., Jan. 14, 1932.

Textile Forum, N.A.C.M., for overseers of warp preparation and weaving, Chamber of Commerce Bldg., Boston, Mass., Feb. 11, 1932.

Textile Forum, N.A.C.M., for overseers of dyeing, bleaching and cloth room, Chamber of Commerce Bldg., Boston, Mass., Mar. 10, 1932.

Knitting Arts Exhibition, 28th Annual Show, Commercial Museum, Philadelphia, April 11 to 15, 1932.

National Association of Hosiery and Underwear Manufacturers, Annual Meeting, Commercial Museum, Philadelphia, Pa., April 14, 1932.

Textile Forum, N.A.C.M., General Meeting for agents and superintendents, Chamber of Commerce Bldg., Boston, Mass., April or May, 1932. (Date to be set later.)

Second National Cotton Week, nation-wide promotional campaign, May 16 to 21, 1932.

Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 17 to 22, 1932.

NEWS about MILLS

Cotton

*Eagleville (Conn.) Co., including a 4-story frame mill, 10 tenement houses, and land and water rights was sold Oct. 29 for $12,265. William E. Clark, Willimantic, Conn., real estate man bought the mill building.

Eagle & Phenix Mills, Columbus, Ga. Hungerford & Terry dry chemical feeder and filter plant accessories are being installed.

Sagamore Mfg. Co., Fall River, Mass. The plant reopened Monday Nov. 2, following a week's shutdown. There will be a 10% reduction of all salaries and wages.

Wovencraft, Inc., Marlboro, N. H., whose selling agents are Ethelle Mfg. Co., New York, has purchased one of the plants of Gould & Ziegler Weaving Co., West New York, N. J. Operation of the new plant will be started by Jan. 1, if expectations are fulfilled, and production will reach 2,000,000 cotton and rayon labels weekly. This is the third expansion of the company within the last two years.

Newark (N. J.) Cottonfelt Mfg. Co., recently formed with a capital of $100,000, to operate a local mill for the manufacture of padding, wadding, etc., will be represented by Milton J. Finkelstein, 17 Academy St., Newark, an attorney. Peter I. Kriegman, also of Newark, is one of the principal incorporators.

*Avon Mills Co., Gastonia, N. C. Real estate, including 22 acres of land, 72 dwellings, a main mill building and warehouse, was sold at public auction Oct. 24 by W. L. Balthis, receiver for the bankrupt corporation, for $50,000. S. N. Boyce, president of the First National Bank of Gastonia, acting as agent for the creditors, bid in the property for the above figure and assumption of liability for unpaid taxes and street paving assessments amounting to more than $5,000. The sale is subject to confirmation by the superior court.

Manville Jenckes Co., Loray Mills Division, Gastonia, N. C. A general yarn department has been developed as part of a plan to diversify the product of this company's tire cord mill, which has 118,320 ring spindles and 47,024 twisting spindles. The mill will spin from 4s to 60s yarns, both carded and combed, singles and ply, and the selling will be direct to the weaving, knitting, and other consuming trades.

*Spofford Mills, Inc., Wilmington, N. C., has placed all equipment in service recently installed at its plant for the production of broadcloths, and is giving employment to a working force of 150 persons on a full-time schedule.

*Commander Mills, Inc., Sand Springs, Okla. The new bleachery was formally opened last week and started work on its own product of sheets and pillow cases.

*Indicates previous mention of project.

B.B. & R. Knight Corp., Pontiac, R. I., has awarded general contract to C. K. Rathbone, Providence, R. I., for a two-story addition, 40x80 ft., to local mill, estimated to cost $18,000.

Lorraine Mfg. Co., Westerly, R. I. The weaving plant at Pawcatuck, near Westerly, which only opened last spring after an extended shut down, will be closed and the work handled at the Pawtucket plant.

Wool

Columbia Woolen Mills, Columbia City, Ind., have awarded a general contract to the William A. Sheets Construction Co., for a two-story and basement addition.

Charlton Woolen Co., Charlton City, Mass., has curtailed operations to three days and three nights each week.

Assabet Mills, American Woolen Co., Maynard, Mass., have been closed and the machinery is to be transferred to other mills of the company. The reason for the decision to shut down for good is the refusal of union employees to do work sent the mills from its plant in Lawrence, Mass., where a strike is in progress. The employees at a mass meeting held on Oct. 30 voted not to accept Lawrence mill work in any department, hence the decision to close.

Osgood Mills, M. T. Stevens & Sons Co., North Andover, Mass., closed permanently Nov. 7. Nathaniel Stevens, president, asserts that the company is able to buy yarn cheaper than it can be manufactured.

Chase Mills, American Woolen Co., Webster, Mass., which have been closed for several months, are to be taken over by the "Enterprise Committee" on New Industries of that town, which has taken an option to purchase. The company is removing the remainder of the machinery to its other mills in New England. The committee plans to rent space in the mills to any new industry desiring to locate in Webster.

Biltmore (N. C.) Woolens, Inc., have been chartered with an authorized capital stock of $50,000; $2,300 subscribed by F. P. Bacon, Tryon, N. C.; E. C. May, Catherine P. May and Louis C. May, Asheville, N. C.

*Staytonian Woolen Mills, Stayton, Ore., which have been closed for the last three years, are soon to start operation again under a reorganized company. Thomas Thomas, will be president; George W. Sault, vice-president; John Chapman, secretary, and Chas. E. Platt, treasurer. The mill will manufacture quality goods.

Brighton Worsted Co., Inc., Philadelphia. Negotiations are progressing for a consolidation of the interests of the Brighton company with **Cambridge Mills,** also of Philadelphia. Charles F. Sloan, president of the former company will be in charge of distribution, while Clarence C. Manuel, president of the latter, will manage production. Their New York offices will be combined in the Fifth Avenue building, where they are at present.

Red Hill (Pa.) Rug Co., Inc., is installing machinery in the building formerly occupied by the Red Hill branch of the Topton (Pa.) Rug Mfg. Co.

Greenwich Mills, East Greenwich, R. I., received bids Nov. 2 for a 3-story mill addition 75x95 ft., from plans prepared by Charles T. Main, Inc., Boston, Mass.

Stillwater Worsted Mills, Harrisville, R. I., with New England branches at Ashaway, Greenville, and Mapleville, R. I., as well as at East Woodstock, Conn., has placed the above mentioned plants on a three shift basis. The reason for this change is to give employment to a greater number of persons. The total number of employees in the five plants has been increased from 1,400 to more than 1,800.

American Woolen Co., Swanton, Vt. The voters of the town have approved a plan to exempt the mill building, formerly occupied by the Remington Arms Co., from taxes for 10 years providing the American Woolen Co. will maintain an average of 150 employees.

Virginia Woolen Co., Winchester, Va. Employees have been put on an eight hour a day schedule; this time represents a cut of two hours a day and a corresponding cut in wages. This plan will insure regular work and make a suspension for a day or two weekly unnecessary. There was a 20% wage reduction at the plant about a year ago.

Knit

Wm. Carter Co., Needham Heights, Mass., purchased a site some time ago in Macon, Ga., where it already has a branch plant, as well as in Barnesville,

Ga. William Carter, president, visited Macon recently and intimated that the contemplated new plant would be much larger than the present one now in operation there, and would probably be started in the spring. The city has already extended pipe lines to the property.

Felsan Hosiery Co., Hackensack, N. J., recently organized with a capital of $125,000, to operate a local mill, will be represented by Wright, Vanderburgh & McCarthy, 210 Main St., Hackensack, attorneys. J. S. Barney is one of the incorporators.

Olga Knitting Mills, Inc., Watertown, N. Y., have plenty of business to keep going at full capacity for a year. They expect to expand their plant by installing more machines, which will of course increase the number of employees.

Ada (Ohio) Knitting Mills Co., Inc., which closed several years ago following the death of the owner, H. M. Chapman, will be reopened to make knitted dresses, suits, and berets.

Ephrata, Pa. A new hosiery mill is to be established before the end of the year, according to William D. Leed, Ephrata business man, who sold a large tract of land to outside interests as the site for a new plant. It is to start with 30 machines as soon as a building can be erected, he states.

Torresdale Hosiery Mills, Philadelphia will increase production with two shifts, which started last week. The plant has been working at full capacity with one shift since a brief shutdown in the summer. The Torresdale mill, formerly the **Burlington Hosiery Mill,** is one of the Marshall Field & Co. enterprises.

***Canadian Silk Products, Ltd.,** Sherbrooke, Que., Canada, have been operating on day and night shifts. They are to install 40 additional full-fashioned hosiery machines in a building which is now being constructed.

Silk

Brewton (Ala.) Silk Mills, have work under way for the installation of additional looms and auxiliary equipment to provide for increased capacity.

***Hanks' Mill,** Mansfield, Conn., purported to be the first silk manufacturing mill to be established in this country, is being dismantled for shipment to Ford's museum at Dearborn, Mich. The mill was built in 1810 and was sold to Henry Ford by Mrs. Ozra G. Hanks descendant of its first owner, Rodney Hanks.

Real Silk Hosiery Mills, Indianapolis, Ind., have awarded a general contract to the Mead Construction Co., Indianapolis, for a one-story addition, 45x50 ft., estimated to cost about $17,000, with equipment.

Globe Silk Label Co., Inc., Boston, Mass., recently organized to operate a local plant, will be headed by Samuel Rudomen as president, and Abraham Levine, 174 Woodrow Ave., Dorchester, Mass., treasurer. The company is capitalized at 100 shares of stock, no par value.

Eastern Silk Co., Paterson, N. J., recently organized with a capital of 1,250 shares of stock, no par value, to operate a local mill, will be represented by Surosky & Surosky, 45 Church St., Paterson, attorneys. Isaac Brewer, Paterson, is one of the principal incorporators.

Katterman & Mitchell Co., Paterson, N. J., manufacturers of broadsilks, with plants at Port Jervis, and Kingston, N. Y., Waldwick, N. J., Scranton, Pa., and Stanley, N. C., will establish a silk mill at Laurens, S. C. For this purpose the company has purchased the building formerly used by the **Pioneer Braid Corp.** L. C. Barksdale, secretary of the Laurens Business League said that three weeks will be needed to recondition the building. An estimated working force of 140 persons will be needed and a weekly payroll of $2,000. It is understood that the initial installation will consist of 50 silk looms and auxiliary equipment.

***Champlain Spinners, Inc.,** Whitehall, N. Y., incorporated to take over and run the old Champlain Silk Mills as reported in Oct. 24, TEXTILE WORLD, plan to manufacture spun rayon yarns made from long staple rayon fibre. They will require about 100 operators at the outset but hope to increase that force eventually to a total of several hundred. The personnel of the company is given on pages devoted to "News About Men" in this issue.

Hillsgrove Silk Co., Inc., East Greenwich, R. I. Arthur H. Feiner, Providence attorney, has been appointed temporary receiver, following a petition of Gedale Messing, president, stockholder, and a director of the company. Mr. Messing stated that, although the concern is solvent, it is unable to meet all obligations as they mature.

***Stark Bros. Ribbon Co. of Canada, Ltd.,** Granby, Que., has begun the installation of machinery in a one-story mill, totaling about 15,000 sq.ft. of floor space, recently secured under lease. It is proposed to have the unit ready for service at an early date and employment will be given to about 60 operatives.

Rayon

Celanese Corp. of America, Inc., Amcelle, Md., will proceed with the erection of a new one-story addition, 66x170 ft., reported to cost over $80,000, with equipment, for which the general contract has been let to Wright, Richardson & Co., Cumberland, Md.

Finishing

***Uncas Mfg. Co.,** Norwich, Conn., purchased the plant of the **French River Textile Co.,** Mechanicsville, Conn., from the **Guerin Mills Co.,** Pawtucket, R. I.

Slater Co., Inc., Webster, Mass., which has been operating on a day and night schedule for a long period, has made a wage adjustment on a sliding scale of from 7 to 10% affecting those receiving more than $18 per week.

Hartsville (S. C.) Print & Dye Works, according to a recent report, will absorb the Cedartown (Ga.) branch of the **United States Finishing Co.,** New York. The Cedartown plant will be dismantled and the machinery transferred to Hartsville where finishing operations will be expanded to include napped goods and material in 60-inch widths. U. S. Finishing Co. already owns control of the Hartsville Print & Dye Works, of which Samuel L. Hayes is resident manager.

New Books

THE MARKETING OF WOOL; By A. F. Du Plessis; Isaac Pitman & Sons; New York; $3.75; 337 pp.

Praising the achievements of research at two vital ends of the wool industry—production and manufacture—Mr. DuPlessis observes that the intermediary division, that of distribution, has to date been neglected. His book tackles this last problem and while the author remarks that his book "is far from complete" it unquestionably offers an excellent basis for further approach to the subject. The volume begins with a condensed outline of wool production, manufacture, preparation for market and standardization, and then passes quickly to Mr. DuPlessis' major problem—marketing. All chief aspects of modern distribution are considered: auction marketing, cooperative selling, market control, statistics, short term credits and wool prices over long and short periods. He has studied marketing developments in all major wool trading countries and this lends particular authority to his conclusions. While pointing out that existing marketing systems are conspicuously faulty, he finds encouragement in the fact that "this is being realized increasingly and evidence is not lacking of tendencies in the wool trade which are definite attempts to meet these failings." He cites the recent establishing of a wool futures market on the New York Exchange as a significant step. "This" he writes "is an interesting experiment which if successful might do much for a recommendation of the adoption of the system elsewhere," and he sees the futures market as helping to "lay the bogey of speculation."

PROCEEDINGS OF THE THIRTY-FIFTH ANNUAL CONVENTION, AMERICAN COTTON MANUFACTURERS ASSOCIATION; published by the American Cotton Manufacturers Association, Charlotte, N. C.

The thirty-fifth annual convention of this association was held April 24-25 at Augusta, Ga., and the proceedings now are available in book form. The volume opens with a brief outline of the life and textile career of Cason J. Callaway, LaGrange, Ga., who was elected president of the association at the April convention. The book also includes a roster of members, the constitution and by-laws of the association, cotton rules and cotton States arbitration rules.

**Indicates previous mention of project.*

New Machinery *and* Processes

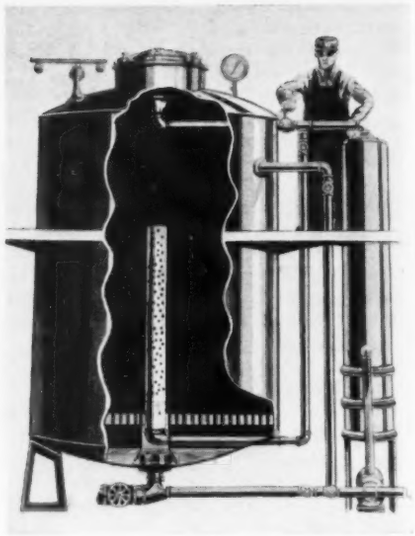


Fig. 1. R & H Duo-Flow circulation kier for peroxide bleaching, showing construction and position of the circulating system

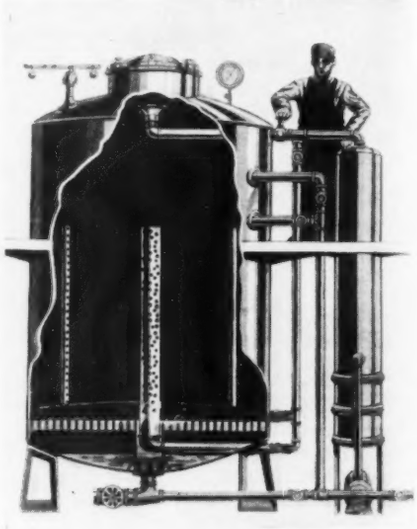


Fig. 2. R & H Triple-Flow circulation kier for peroxide bleaching, showing overhead spray pipe, central distributing pipe, and distributing pipes at the periphery

Circulation Kiers for Peroxide Bleaching

By T. D. Ainslie*
Bleaching Technologist
and L. P. Litchfield*

AN IMPORTANT development in peroxide bleaching was the introduction in 1925 of a new type of kier designed to give rapid, uniform saturation of materials. This equipment, employing the pressure principle, was the first peroxide circulation kier, and was known as the R & H Duo-Flow Kier. It was an adaptation of the older chemic kier, but included new circulation features with a novel method of introducing the liquor. It was soon adopted by many bleachers as standard equipment, as it made unnecessary the long treatment which material had previously required, and permitted economies in time, labor, and other factors. Continued improvements have been made since 1925, and recently another kier, based on the same principle as the Duo-Flow kier, but embodying an improved circulation system was introduced. This is the R & H Triple-Flow circulation kier. The Duo-Flow and Triple-Flow kiers have been protected by U. S. patents Nos. 1,545,872, and 1,700,481, respectively.

Both kiers have pressure circulation systems, and avoid uneven bleaching by the rapid and thorough saturation which they give the material. These kiers derive their names from the unique circulation systems which they embody. The Triple-Flow kier features three distinct flows: (1) A vertical flow down through the material in the kier; (2) a horizontal flow, from the center of the kier toward the periphery; and (3) a flow from the periphery of the kier toward the center. The Duo-Flow kier employs the first and second circulations. In Figs. 1 and 2 are illustrated the two types of equipment.

The success of any bleaching operation is measured by the results secured; namely, uniformity of treatment and efficiency and economy of operation. In general, to produce satisfactorily bleached goods, the treating liquor must saturate the material completely, temperature must be kept uniform in all parts of the bleaching equipment, and complete liquor circulation must be obtained. Economy in operation—i.e., the lowest chemical cost and least equipment per pound of material—is obtained by using the least possible amount of liquor which will give uniform results.

The type of bleaching equipment employed is in many ways responsible for the uniformity of treatment and efficiency of the process. For peroxide bleaching, the kier is in wide use because it handles large amounts of material at low cost for chemicals and labor.

In designing both the Duo-Flow and the Triple-Flow kiers among the factors considered were the following:

1. The necessity of securing uniform penetration throughout the load, with a subsequent even bleach.
2. The necessity of a full load, involving a decreased time factor.
3. Insuring a low cost for chemicals, due to the high ratio of goods to liquor.

When treating with hydrogen peroxide, penetration must be secured as soon as possible after commencing the bleach. If the penetration is not complete in a comparatively short time, those parts of the mass which become saturated last will have a different degree of treatment than those parts which were penetrated first. A hydrogen peroxide solution rapidly gives up its oxygen content in the bleach bath, and it is necessary to have all the material saturated with liquor as uniformly and as quickly as possible in order to assure uniform results.

If the kier is not properly designed, there is no certainty that all parts of the mass are uniformly bleached after a single treatment. Uneven treatment may result because of the formation of channels which carry the liquor through the material in lightly packed places but avoid the parts of the kier which may be packed tighter. In other words, the liquor follows the course of least resistance; and even though all of the goods are eventually saturated with the treating solution as indicated above, the bleaching is not uniform. The liquor works its way through to the bottom, following the channels, with the result that material in the upper part of the kier is usually very uniformly bleached, while that in the lower part is uneven. In order to obtain good results in this older type of kier, the usual practice is to remove the material from the kier and replace it again for a second treatment. The moving of the material changes or eliminates the channels and thus gives in the second treatment an evening up of the results obtained in the first one. If the unevenly bleached goods are not removed from the kier, then it is often necessary to treat with a second batch of chemicals.

To insure a decreased time factor requires loading of the kier to full capacity, and at the same time securing the rapid penetration necessary. Good results must be obtained with a single boil, without necessitating an increased

*Of the Bleaching Experiment Station, The Roessler & Hasslacher Chemical Co., Inc., Niagara Falls, N. Y.

length of time to completely penetrate the mass of goods. In this way, uniform results are obtained, and the time required for bleaching a given tonnage of material is kept at a minimum.

It must be remembered that the object of the bleacher is to do his work in the minimum time, and with the minimum quantity of chemicals, the minimum equipment, and with a certainty of result. This purpose is attained if only one boil is given and a heavy load is run. The labor is reduced, less chemicals are employed, and the cost for equipment per ton of cloth is, therefore, much lower.

By taking the factors enumerated into consideration in the design of the Duo-Flow and Triple-Flow circulation kiers, it has been possible to produce equipment with the following specific advantages:

(1) Large Capacity—The kier can be loaded to its full capacity. It is never necessary to run small loads to insure good penetration and uniformity of treatment. (2) Maximum Penetration—Minimum distance for the liquor to travel to reach any part of the kier means rapid and thorough penetration of material. All parts of the load are in contact with moving liquor practically from the time the pump starts. (3) Uniformity of Treatment—All of the liquor is in constant motion and all of the cloth in the kier is subjected to a constantly moving liquor. There are no dead spots or channels. (4) Economy of Operation—Maximum amount of goods can be treated with a given volume of liquor. (5) Better Dye Bottoms—The purification of every yard of cloth is complete and the bleaching uniform. No resists result from uneven bleaching or boiling. (6) High Quality Bleach—The entire load of material is bleached to the clear and permanent white characteristic of peroxide bleaching, without danger of weakening the fabric.

In the accompanying illustrations are pictured the two kiers, with sections cut away to show the construction and position of the circulation systems. The essentials of the bleaching operation in the kiers are as follows:

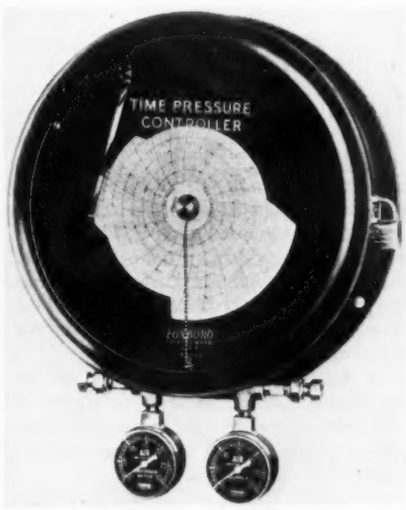
In the Duo-Flow kier, liquor from the bottom well is pumped through the heater and introduced again into the kier through the overhead spray pipe and through the center spray head. The direction and intensity of either of these flows is readily regulated by means of the control valves. It is the combination of the vertical flow down through the material with the horizontal flow out from the center of the kier which gives thorough penetration of the material with liquor of the same strength, and thus avoids uneven bleaching.

In the Triple-Flow circulation kier, the principle is the same. The liquor, after passing through the heater, again enters the kier not only through the overhead spray pipe and through the central distributing pipe, but also through the upright pipes at the periphery of the kier. This third flow, from periphery to center, is of considerable assistance in giving rapid penetration of the material. It may be concurrent with, or alternate with, the outward flow from center to periphery.

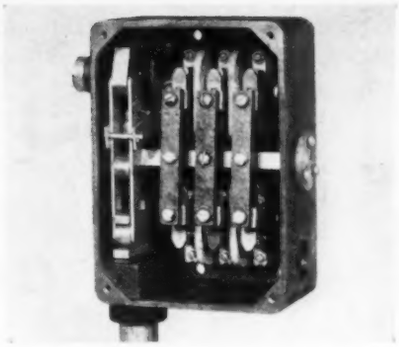
It is also possible to obtain other flows within the kier, by proper regulation of the control valves. For example, the bleach liquor may be withdrawn from the kier at the central distributing pipe, giving a strong flow in toward the center. Or in the Triple-Flow kier, withdrawing the liquor from the upright pipes at the periphery insures a strong circulation in the lower part of the kier, with discharge at the top. By using various combinations of inward and outward horizontal flows in conjunction with the vertical flow down through the material, an experienced operator is able to treat any particular type of fabric under the conditions necessary to obtain a thorough and even boil in the shortest time. The operation of the R & H circulation kiers is extremely simple. Of course, as in any bleaching operation, continued uniformity is obtained through treating each batch in an identical manner. In brief, it may be stated that the rapidity and thoroughness of penetration permits bleaching with economies in time, labor, peroxide, fuel, and water. And, in addition, the permanent bleach, few resists, full fiber strength, and maximum loftiness and elasticity which characterize all peroxide-bleached goods are developed to the fullest in these R & H circulation kiers.

Non-Recording Time Controller

FOR controlling temperature or pressure in relation to time, Foxboro Co., Foxboro, Mass., announces the Non-Recording Time Controller. This instrument is designed to maintain a predetermined cycle of operation in any process involving temperature or pressure. It is similar in appearance and construction to the standard recorder-controller manufactured by this company. The major difference between the two instruments is that the non-recorder has a printed aluminum cam instead of a paper chart and a specially designed cam follower in place of the pen arm. This unique construction has made it possible to obtain a one-to-one ratio between the cam reading and control point setting, thus maintaining the control point without the use of multiplying devices of any kind.



Controller for maintaining a predetermined cycle of operation



Plunger-type snap-action limit switch may be foot operated

The cam is a printed aluminum disk the size of a standard 10-in. chart. The markings are printed, by a special process, from plates similar to those used in the printing of Humitex charts. This feature makes the use of the instrument particularly flexible, since new cams to meet changed conditions can easily be cut with shears and a file.

The controller is adapted for use in industrial processes in which the relation of time to temperature or pressure is important. One of the most interesting applications of this instrument is in the maintenance of gas pressures in lines where the load requirements are predetermined.

Snap-Action Limit Switch

A NEW plunger-type, snap-action, weatherproof limit switch, bearing the type designation CR-9441-LS443D and designed for general industrial applications has been announced by the General Electric Co. The switch is particularly adapted for foot-operation and may be mounted in any position.

It has six separate electrical circuits, three normally open and three normally closed. Each contact arm in the switch may be removed by taking out a screw for easy access to the terminal studs for connecting the control lines.

The switch has a positive snap action in either direction and is operated by a cam and ball mechanism. As pressure is applied to the plunger, the return spring compresses; and the switch snaps over. When pressure is removed from the spring plunger, this increased energy in the return spring snaps the switch mechanism back to normal position. The normal pressure of the overtravel spring is 50 lb. at $1\frac{7}{8}$ in. in length. Consequently this section will act as a solid member during the normal operation. However, in case the adjustment of the switch is not accurate, any overtravel up to $\frac{1}{2}$ in. will be taken up by the overtravel spring.

Questions . . . *and* Answers

Shuttle for Doupioni Filling

Technical Editor:

In your issue of August 8, on page 39, you have an article headed "Breakage of Doupioni Filling," and as this subject interests us, we are writing you to inquire if the type of cop you refer to was wound on a paper tube so as to fit over a spindle in the shuttle or if it was the type of cop that is wound so that it feeds from the inside, using a shuttle of the corrugated wall style having an elastic band or a steel plate to fit over the top to hold the cop in position.

As this class of goods comes in the market from time to time, we are naturally anxious to learn all we can about the best type of shuttle to use in the weaving end. So far, our experience has been that the corrugated type with cops feeding from the inside and feeding through a short strip of fur placed behind the two spring plates has been very satisfactory. We are submitting one of these shuttles for your inspection.
(7701)

The type of cop mentioned in the article "Breakage of Doupioni Filling" was a paper cop made to fit over a spindle on the inside of the shuttle. Some mills run this filling in shuttles that have a four- or five-piece shuttle ring controlled by a rubber band which applies the tension. This type of ring causes excessive breakage.

Shuttles that have a spindle on the inside over which the cop is placed and which are equipped with two plates pressed together with two light springs are often preferred for running this filling. Short pieces of fur are glued close to the plates so that the tip of the cop will enter the fur. The filling passes through the fur and then between the two plates, coming out of a bead in the front side of the shuttle. This bead is quite large. The least possible pressure against the filling is desired. For mills which can maintain production of coarse-fiber filling material over a long period, the shuttle using the cops which unwind from the inside can be used.

In silk mills, changing over to different types of fabrics is often found necessary to keep on the right side of the ledger. This may happen several times in a season. In using the type of shuttle with a spindle, the weavers are accustomed to watch the filling and to change the cop when it is nearly empty. The type of shuttle submitted prevents this close supervision of the filling.

Of the spindle-type shuttles, the one using the spring tension, as in the shuttle submitted, is generally accepted as most satisfactory . It can be used for a smooth wool filling of fine count or a rough-fiber type of filling such as the Doupioni. Some mills use paper cops for silk filling, and if a change is made to this kind of work, no change will be required in shuttles.

▼

Kinks in Crepe Filling

Technical Editor:

I am sending to you an iron steaming bobbin of crepe filling. This crepe filling consists of seven threads of Grand Double XX Yellow Japan and was thrown the following way: It was soaked with 3% olive-oil soap, 6% prime neats-foot oil, 2 oz. borax, and 80 gal. of water to 100 lb. of silk. It was run on the winders with uniform weights, spun on 5-B spinners with a No. 12 traveler, and given 3 to 3½ turns. It was then given 55 turns on the double-deck spinners. The iron bobbins were allowed to stand in clear water for 6 hr., were then extracted, and were allowed to dry for 24 hr.

On examining the thread on this iron-head bobbin, you will notice small kinks or snarls. We have checked up on all the porcelain guides on all the machines for cut porcelains. We also have tried new flyers with heavier wires, but we still get the small kinks which you will notice on the bobbin sent you.

We have the same trouble on our three-thread 20/22, which is given 60 to 65 turns per in. I shall appreciate your opinion as to what caused this trouble and how to overcome it.
(7709)

The defect in the seven-thread crepe yarn is known as pin-head kinks. This defect is caused by the following: first, a wiry thread or one lacking the necessary pliability to take the twist uniformly; second, a lack of tension in twisting; third, too dry an atmosphere in spinning room.

To make the silk pliable, we suggest the following formula:

100 pounds silk	
Olive-oil soap	6 lb.
Prime neatsfoot oil	10 pints
Borax	1 lb.
Temperature	85° F.
Time	14 hr.
Water	85 gal.

If the silk is naturally hard and is not pliable enough, increase the borax until the desired pliability is obtained. To get the proper tension, adjust the spindle speed and type of flyer to the yarn. We suggest that you use a No. 8 or 4-arm flyer.

Crepe twisting is greatly facilitated by twisting it in a humid atmosphere. A temperature of about 75 to 80° F. at a relative humidity of about 65% is the most practical air condition. A cooler temperature and higher relative humidity is desirable from a humanitarian standpoint, but this is impossible to maintain without a cooling system.

▼

Holes in Silk Hosiery

Technical Editor:

We are enclosing three women's stockings which, you will note, contain holes. These appear in different sections of the hose. They do not seem to have been caused by a tear or any other mechanical factor, but appear rather to have been eaten away by some chemical or other agent.

This defect shows up in the goods after they leave the gray stock and before they get to the boards. We have carefully checked our dyehouse for acid or anything which might eat holes in our stockings. So far we have found nothing which will lead us to believe that this is the source of our trouble. We are not having this difficulty all the time, but occasionally a lot will contain several stockings having this defect.
(7720)

It is very difficult to arrive at any definite or satisfactory solution to a problem of this kind, as there are so many possible causes to be considered.

In one of the stockings it is very clear that a portion of the fabric has been eaten away, which would indicate that some chemical was the cause. However, an examination of the threads around the edges of the hole does not show any tendering, which is usually present as a result of burned fibers.

On examining another one of the stockings, we found other chafed marks where there was no hole. On pulling these chafed spots, the cut fibers would readily break and make a hole.

We are inclined to think that these holes and chafed spots were caused by a mouse or an insect. We have seen similar holes caused by a mouse eating

a fabric which had been coated with paste, jelly, chocolate, or some similar sweet substance which had been dropped on the goods by a careless operative. We know of cases where mice ate the rider tickets off the goods in order to get at the glue on the back of the tickets. If any food substance on the inside of a stocking should attract a mouse, he will cut his way to the inside; and if it should be fastened to the outside he will cut the fiber to remove it.

▼

Obtaining Luster on Messaline

Technical Editor:

I am enclosing two samples of messaline. One, you will notice, has considerably more luster than the other. We have been unable to duplicate this high luster. The construction is the same—rayon warp and raw silk filling. What we would like to know is whether the material was run through water or a finishing wax to produce the high luster? Do you believe that the heat of the steel calender roll would have any effect on producing a luster? (7706)

In our opinion there has been no wax or other finishing compound applied to this material. The high luster and the flat, ironed-out appearance result from the combined effect of heat and pressure at the calender rolls. We would caution you to be careful of the amount of pressure applied at the calender. If too great, the filling will be cut at the edges. Heat on the calender rolls has an appreciable effect upon luster.

▼

Inserting Tissue Paper in Silk Hose

Technical Editor:

We have an inquiry from one of our hosiery customers who desires to insert tissue paper, similar to the enclosed sample, in his silk hosiery. Can you advise us how this can be done, or if there is any known form that can do this work? (7715)

We are not familiar with the method or equipment used in inserting tissue paper in silk hosiery. We know, however, that it is being done and have seen hosiery put up in that way—notably imported hosiery of lace design.

The two accompanying sketches represent forms which we believe could be used with satisfactory results. We believe that of the two, Fig. 1 will be preferable, and shall therefore explain its design and operation first. Shape out two thin forms of either wood or metal. We believe that thin maplewood will be preferable. The shape of these forms should correspond to that of the paper to be inserted, but their overall dimensions should be a little larger. Form No. 1 is attached to a 6-in. block, and the companion form No. 2 is hinged to it as shown. In operation, the paper will be laid on No. 1, and No. 2 folded down upon it. The stocking may then

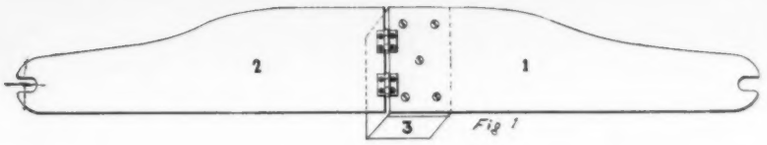


Fig 1

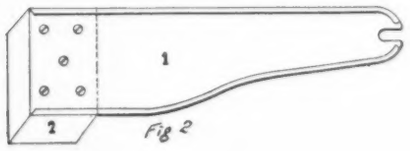


Fig 2

be drawn onto the form, the paper caught at the finger slot at the end, and the stocking, together with the paper, withdrawn.

The device in Fig. 2 would be made of Monel metal with about a ⅛-in. flange on both sides of the form. In operation, paper would be laid on the form and the stocking drawn on. Then, by means of the finger slot, the paper would be slightly lifted to raise it above the flange, and drawn off.

We believe that a little experimenting along the lines outlined will solve your problem.

▼

Oil Streaks in White Ingrain Hose

Technical Editor:

We are having a great deal of trouble running white ingrain goods on 3¾-in. diameter, model B5 machines. Our machines will be perfectly clean and suddenly we will run into a streak of dirt opposite the gore in the heel. We do not run into this difficulty on our small diameters, but simply on this large size. Possibly the fact that our heel is larger than in the small size and the fact that the long-butt needles are up longer may cause this trouble. We are enclosing a specimen of sock which will show you what we mean.

The sample of white ingrain infants sock has been examined and we are giving below some of the possbile causes of the stains which appear in the instep of this hose.

A very common cause of this difficulty is improper methods of oiling the cylinder and needles. Some knitters use kerosene on the needles in starting in the morning to assist in limbering up the machine. This is certain to result in oil stains on the goods, and such practices are to be avoided. The knitter should bear in mind that the thinner the lubricant, the more danger there is in staining the goods. A piece of tallow touched against the needle butts and cylinder walls will lubricate the needles and cams with a minimum of streaks from oil.

Knitting small sizes on large-diameter cylinders contributes to the formation of needle stains in the instep due to the increased tension on the stitch arising from contraction. Examination of this fabric shows that the sinker stitch is long in comparison with the needle stitch. This means that the loop fits the instep needle very closely, and the sinker, being set deep, tends to put tension on the loop in the heel and toe. The machines should be inspected carefully to see that the cylinder remains down in the heel and toe. Any slight variation in the elevation of the cylinder means a corresponding slippage of the instep needle in the loop. This will almost invariably result in needle stains.

Inquiries should give the fullest information possible; and if damaged material is involved, a sample should be sent. We give no consideration to anonymous inquiries and do not undertake routine analysis of yarn or fabric, or investigation involving unusual expense.

▼

Yellow Cast in Satin

Technical Editor:

We are sending you samples of a satin in the raw and in the dyed state. The piece in the raw has stripes in the warp which have a yellowish cast, and which show up after dyeing. As you will notice, the stripes seem to be more lustrous on the dyed sample. What is the cause of these stripes? Has there been soaked and unsoaked silk used; different sizes of silk; or is there some kind of oil on the silk that does not boil out? (7692)

We have carefully examined the samples of satin which you submitted, and find that there is a little variation in the raw warp stock and that in certain areas the warp threads are quite bunched. This condition, however, should not cause the yellowish cast. We are of the opinion that the defect is due primarily to improper boiling off. That is, the yellow tint in the filling was not removed, and good penetration of the dyestuff was not obtained.

We are returning a sample of the satin which we have finished. You will find that the yellowish cast has been eliminated.

DURENE

NATURAL-BLEACHED
AND COLORED
YARNS

Main Office:
PHILADELPHIA
123 South Broad Street

James Building
CHATTANOOGA, TENN.

Manning St.
HIGH POINT, N. C.

418 Franklin St.
READING, PA.

222 North Bank Drive
CHICAGO, ILL.

52 Chauncy St.
BOSTON, MASS.

261 Fifth Ave.
NEW YORK

LOS ANGELES

HAMILTON, CANADA

Mills: CHESTER, PA., BELMONT, N. C.

ABERFOYLE MANUFACTURING CO.

◆ *Survey of Fabric, Knit Goods, Yarn and Raw Material Markets* ◆

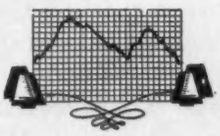
TEXTILE WORLD ANALYST

Cotton Recovery Premature, if Discounting Inflation

By Dr. L. H. Haney

SUMMARY

Inflationary developments in England and elsewhere have caused some advance in terms of foreign currencies, but do not seem to warrant higher prices in dollars unless our own currency is to be inflated. There is no reason to expect any rise in cotton unless commodities in general rise, of which there is yet no evidence. The recent recovery is premature if it is discounting inflation.



IN THIS country the spurt in cotton prices during a part of October appears to have been due chiefly to what must be regarded as a speculative move. Thus far it has chiefly represented covering of short positions of all sorts. This movement has been based upon two factors: (1) the arrangement to hold something like 7,000,000 bales off the market through the cooperation of southern banks and the Federal Government, and (2) the anticipation of inflationary developments in money and credit which might bring a general advance in commodity prices. The latter point still remains uncertain, as there are considerable difficulties in the way of making credit inflation effective at the present time although the inflationary forces are strong. The holding movement, however, appears to be definitely established. This movement will doubtless weaken the tendency to reduce next year's crop to the extent that it is effective in maintaining prices. In any case, it reduces the chance of a sustained rise in cotton prices later on. This is true in much the same way that the reduction of a short interest weakens the market for futures. We are, therefore, inclined to think that the premature advance in cotton prices lessens the probability of any large advance next year.

We need continually to be reminded that the supply of American cotton for the current season is in the neighborhood of 25,000,000 bales. Thus, if 7,000,000 bales are financed and held off the market, there still remain 18,000,000. It does not seem likely that consumption will amount to much, if any, over 12,000,000. Thus next July there would be a carryover of something like 6,000,000 on top of the 7,000,000 bales held in storage.

Exports of American cotton have been stimulated temporarily by weakness in foreign exchange rates. To some extent this weakness has stimulated foreign purchases for the reason that anticipated further declines in the value of foreign currencies would make immediate purchases desirable. There may be some reason, however, to regard the increased demand from England as having a more sustained basis, since it is a possibility that English export trade may benefit for some time by the depression in the pound sterling. To some extent, however, England has gained at the expense of Japan. The trade of the latter with China has been hurt by a Chinese boycott. The threat of war between Japan and China together with some increase in the price of silver has doubtless increased England's orders from China.

It is difficult to see how general depreciation in currencies can fundamentally affect the total world demand for cotton or any other commodity. The only point supporting such a conclusion would be that an inflationary stimulus in business might cause a rise in commodity prices and start a speculative spurt based thereon. It is more than doubtful if such a development would be for the best long-run interests of business in any line. The aftermath would be unpleasant.

Bull Points

1. Decreased acreages for 1931-32 in India and Egypt, and probable reduction of something like 5% in the total for the world.

2. The small carryover and relatively high price of Indian cotton.

3. The probability of a considerable acreage reduction in the new American crop, together with the possibility that much low grade cotton will be left in the fields or at least never be ginned. In the western part of the belt harvesting is late and much cotton is still in the fields.

4. Some tendency toward so-called investment buying of cotton has been stimulated by anticipated inflation.

5. The holding of cotton both by organized groups and by individual farmers has reduced the usual seasonal hedging pressure and tended to distribute marketing over the season.

6. High grade and quality of the new crop.

7. The increase in mill consumption of American cotton in September; United States mill consumption was up, English mill consumption has spurted, and Japanese takings have been large until quite recently.

8. Stocks of finished goods have been reduced and stocks of carded sales yarns are lower.

9. Styles favor a larger yardage of cotton goods.

Bear Points

1. The total world supply of all cotton is estimated at about 41,000,000 bales compared with the previous maximum of 37.3 million bales in 1926-27, while the carryover is about 13.3 million bales, exceeded only in 1921.

2. The supply of American cotton is close to two years' requirements.

3. Favorable weather and very large ginnings in the latest period tend to confirm the large crop estimates.

4. Exports for the season to date are below last year; cotton textile industries on the continent of Europe are very backward; the Japanese cotton industry is now reported to be declining; little if any improvement in India.

5. Much cotton is to be held on farms and much is to be ginned. (The low cash expense of the crop and the more abundant supplies of feed and food, together with hopes based on bank credit inflation, are some of the causes.)

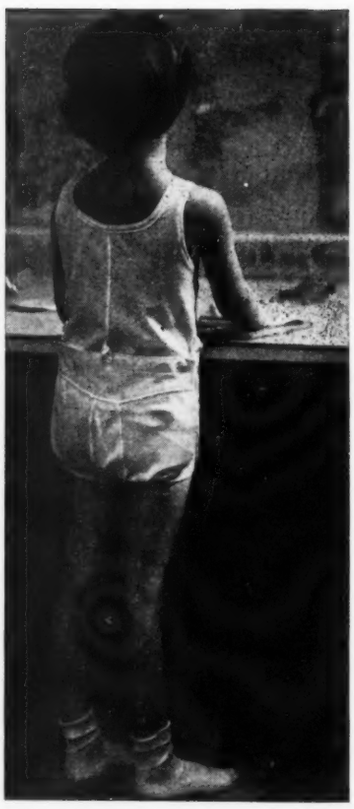
6. Prospects of considerable selling by Russia, in which country the 1931-32 acreage appears to have increased by at least 50%.

7. Domestic spinners' margins have declined and are very low; the margin between a pound of cotton and a pound of cloth in the third quarter reached a new low level of 14.01c.

The analysis and forecast by Dr. Lewis H. Haney, Director, New York University, Business Research Bureau, which regularly appears on this page, considers various branches of the textile industry from week to week. The conclusions reached in the Analyst are mostly forecasts and generally apply to a time two or three months ahead. The Analyst is based on statistical data and does not reflect temporary trade sentiment.

DIXIE *Durene*

Meets the Requirements of Today's Children's Wear Market



Quality at a price is the buyers' demand, and quality at a price is your answer when you offer children's wear of Dixie durene.

"Quality" because Dixie durene has a dull, stylish sheen and unusual pliancy; because it is evenly wound and knits into attractive fabrics; because it is spun of selected long staple cotton that stands washing and wearing.

"Price" because Dixie durene is made under our system of Controlled Manufacture. It is uniform, strong and clean. It reduces waste, cuts down press-offs and shows more salable units per pound of yarn, per working hour. With production costs in line, your prices can be made attractive.

Let Dixie's representative secure samples for you. Test these factors in *your* mill on *your* equipment.

DIXIE MERCERIZING COMPANY

CHATTANOOGA, TENNESSEE

***DIXIE DURENE* . . . A Product of Controlled Manufacture**

8. Unfilled orders for carded sales yarns down.

9. The goods markets are unsatisfactory, with a continued postponement of buying for the spring; unfilled orders for carded cloth increased less than usual in September and orders for finished goods (gray) declined both absolutely and in comparison with billings.

10. Small takings by northern mills.

Statistical Position

The domestic statistical position of raw cotton was weaker at the beginning of October than was the case a month previously. The only improvement which occurred was confined to a more-than-seasonal gain in the consumption of cotton by the mills during September. Exports were the lowest for the month since 1922, and the total of the exports for the first two months of the crop year was also the smallest since that date. The total of mill consumption from Aug. 1 to Sept. 30 was about 140,000 bales larger than in the corresponding period of 1930, but was not large enough to offset the decrease in exports. The net result was a decrease in the total distribution for the first two months of the current crop-year of about 350,000 bales. Meanwhile 700,000 bales were added to the crop estimate. Thus, on Oct. 1, the available domestic supply for the remainder of the season was over 4,700,000 bales in excess of the quantity available a year ago, and was the largest supply available on any October 1, in the post-war period. Furthermore, our seasonally adjusted index of the available domestic supply on Oct. 1, increased more rapidly over the preceding month than it has done at this season in any of the last 12 years.

The replacement margin of the average cotton manufacturer fell to a new low in September, and probably declined slightly in October. The normal performance of the replacement margin is to run up to a peak around October, after which it declines until the following spring or summer. The unusual decline of September and October this year may fairly be attributed to the diminished demand for cotton textiles.

The index of average daily cotton consumption (adjusted) recovered its August loss and the September index is almost identical with that of July. The unseasonable weakness in the replacement margins and the continued decline in unfilled orders of carded sales yarns and cloths during recent months, however, all suggest that the September gain in the mill consumption index is not the beginning of a sustained increase in domestic cotton mill activity.

British mill activity has shown some improvement since the depreciation in the pound. The visible supply of American cotton in England and on the Continent is now below that of last year. The effect was to stimulate the export demand for American cotton during October. Whether or not there will be an inflationary increase in mill activity or whether there will be merely a tendency toward shifting of operations from the gold standard countries to those which have suspended gold payments is uncertain. The sound demand which would come from improved total business, however, is lacking, and the effect on raw cotton prices here is likely to be in the nature of temporary strength.

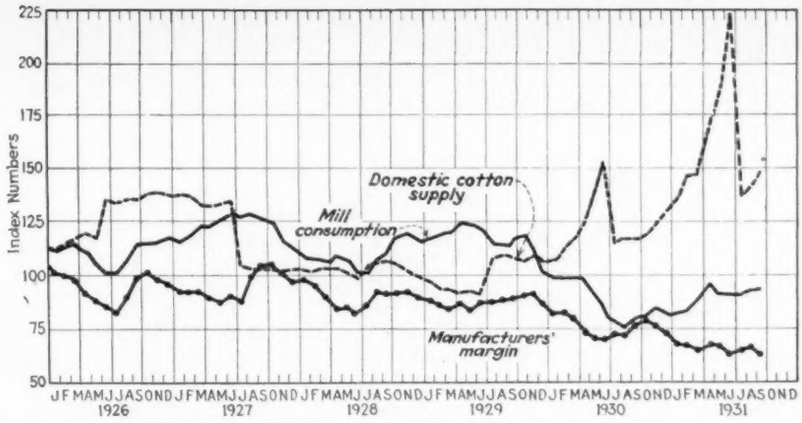

Index Numbers
225
200
175
150
125
100
75
50
Domestic cotton supply
Mill consumption
Manufacturers' margin
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1926
1927
1928
1929
1930
1931

FIG. 1. GENERAL COTTON BAROMETER

Consumption—Average daily, adjusted for seasonal variation, three-month moving average; Manufacturers' Margin—Average of replacement margins; Average Monthly Available—Net domestic available for crop year adjusted for seasonal variation. 1921- 1926 = 100 for all indexes

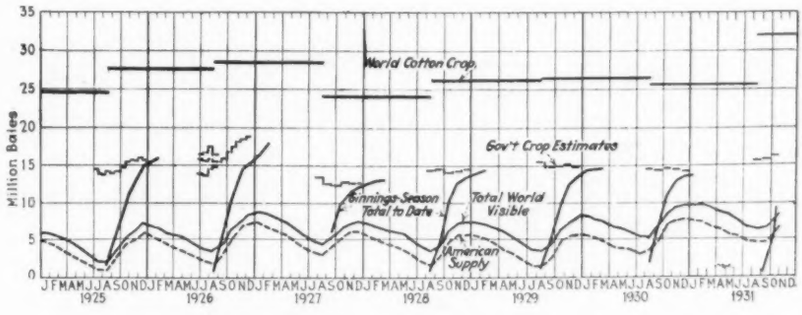

Million Bales
35
30
25
20
15
10
5
0
World Cotton Crop
Gov't Crop Estimates
Ginnings Season Total to Date
Total World Visible
American Supply
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1925
1926
1927
1928
1929
1930
1931

FIG. 2. RAW COTTON SUPPLY

World Cotton Crop (estimated)—Dept. of Agriculture, Government Crop Estimates—Solid lines for December indicate actual domestic crops (Dept. of Commerce). Ginnings—Cumulative for season to end of month shown (Dept. Commerce). World Visible Supply (American and total), as of the Saturday nearest the end of month (Commercial and Financial Chronicle)

The Textile World index of cotton sales yarn prices during October was about 45.0% of the average for 1921-25. This compared with 45.6% in September and 59.0% a year ago. The decline was not so sharp as a month ago and prices were stronger in the latter half of the month following the rally in raw cotton prices.

The adjusted index of spindle activity in September was higher than in August. It was well below the July peak, however, and although carded sales yarn statistics indicate that a steady decline in stocks has taken place since January, unfilled orders have declined without interruption since February.

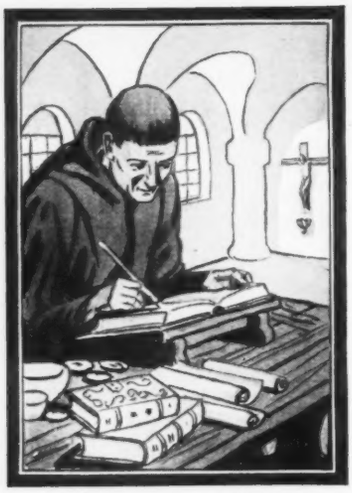
Spinners' replacement margins have fallen to a new low for recent years, as the recent rise in raw cotton prices was slightly larger than that in yarn prices. Production of yarn, as measured by spindle activity, still seems to be high compared with the orders for cloth. It looks as though any relapse in raw cotton prices would be fully reflected in the price of sales yarn.

The price of gray goods during the last month averaged lower than in September, notwithstanding the uptrend in prices during most of October. Although carded cotton cloth sales increased and exceeded shipments, there is usually a larger gain in September orders than occurred this year and, therefore, the adjusted index of unfilled orders declined. This is the third successive decline in the seasonally adjusted index of unfilled orders, and the result is that the September figure was the lowest on the six year record. Stocks of carded cotton cloth declined, but the drop was less than usual for the month. The adjusted index of stocks, therefore, rose to about the level of last June.

Stocks of finished cotton goods declined in September, but orders for gray yardage of finished cotton goods declined again, after allowing for seasonal changes. Orders have fallen off more rapidly than billings, and this relationship usually signifies lower replacement margins for cotton cloth manufacturers. Therefore, any setback in raw cotton prices, which might follow their technical recovery would probably be fully reflected in cotton cloth and gray goods prices.

Wholesale dry goods sales and New York cotton jobbers sales both declined according to the latest reports. Demand has been weak, and until recovery is more definitely in sight, better control of production seems necessary. It is not sound policy for manufacturers to bid up the price of their raw material while they are unable to get an equal increase from the consumers of their product.

SECOND ONLY TO CREATIVE GENIUS IS THE CHOICE OF WORTHY MATERIAL



ILLUMINATED MANUSCRIPTS WERE WORKS OF PIETY AND LOVE BY EARLY MONASTICS

The scriptorium—the room in which this work was done —was regarded as a sacred place. The labor was entered upon with devout prayer. The beauty and permanence of these MSS. attest the incredible care exercised in the selection, preparation and use of vellum, colors, ink, gilt and binding.

The name WHITMAN applied to yarn is a quality designation.

Whitman Yarns represent the highest developments in yarn manufacture • They are characterized by uniformity, correct winding and unsurpassed running qualities • Only the choicest wool and cotton are permitted to enter into their making • None other can hurdle the high barriers of rigid specifications set by the Whitman group of mills • From the moment the raw material has been accepted, until it goes to its ultimate destination as finished yarn, every Whitman product is under the watchful eyes of yarn specialists • These are practical safeguards of the Whitman Yarn qualities that show up in the form of economies in your own production.

Co-ordinating the services of this group of famous yarn mills:

MONOMAC SPINNING CO.
French Spun Worsted

•

ARLINGTON MILLS
Bradford Spun Worsted

•

ACADIA MILLS
Mercerized Cotton

•

NONQUITT MILLS
Fine Combed Cotton

•

CRAMERTON MILLS
Fine Combed Cotton

•

TALLAPOOSA MILLS
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YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

◆Cotton Yarns Find Improved Inquiry

INQUIRY for cotton yarns is reported showing a decided increase, with more interest shown in future deliveries. Buyers still try to secure price concessions, so that frequently a chance for a sale is lost, as spinners are revealing a firmer position on prices. The smaller operators usually offer a stiffer resistance to higher prices, but in several instances larger manufacturers, taking good size quantities, have paid from 1 to 1½c. over the low prices of the depression period. Some indication of the improved attitude toward cotton yarn purchases can be gained by the fact that many houses report a good volume of business for October. One factor reports his total October sales in pounds the best month for three years.

Increasing disposition to place orders for forward deliveries is noted. Direct selling houses have a better chance for booking such orders, which in some instances run into mid-summer. The average spinner is apt to decline to consider anything later than January. Spinners apparently are well fixed for business in November and December, and, therefore, are not so likely to accept some of the low offers which have been made recently. Nevertheless price shading is reported occasionally due to special circumstances surrounding the transaction. With spinners asking 20½ to 21c. for 30s-2 warps, buyers feel safe in making an effort to place orders at 20c.; on 20s-2 warps with quotations of 17 to 17½c. a buyer feels it worth while to try to place his order at 16c. if he can.

Conditions among weaving mills show little improvement. Limited activity is reported with upholstery manufacturers, and chenille rugs have been getting fair business. Men's wear and dress goods mills, making cheaper lines, have not booked much new business. Plush mills are not active although a resumption of activity with automobile producers on new models before the first of the year, is regarded as a hopeful sign. Wire and cable plants have been quiet so takings by these mills are very much restricted. A fair volume of 8s-3 tinged at 13½c. is noted.

Carded knitting yarns have been moved in good size orders at a price, for heavy-weight underwear. A large proportion of this is for quick delivery which is one reason for the prices accepted. With 14c. usually quoted as the average price for 10s, it is evident this business was taken below this figure. For 30s double carded 22½c. is noted asked for good quality yarns.

Single combed yarns also moved for both underwear and hosiery, with 19 to 20c. for 10s noted according to the size of the inquiry. Several inquiries are reported for deliveries running to midsummer of 1932, but dealers and spinners are both rather cautious about accepting business too far ahead. Mercerized yarns have not developed any great amount of volume business.

Southern sales yarn spinners report an increasing volume of business, particularly in the carded qualities, but combed yarns were also more active and inquiries were for larger average quantities. Knitters increased their specifications for mercerized yarns but no great amount of forward buying developed. In combed qualities, 30s and 40s continued the most active numbers, but revival of interest in 80s and finer counts was detected. Combed yarn prices remained about the same as last week.

◆Cotton Less Active; A Little Reactionary

THE cotton market has been less active during the week. Part of the business at least has represented evening up of commitments in advance of the Election Day adjournment and the Government crop report which is scheduled for publication on Nov. 9, next Monday. A trend toward larger estimates of the crop has probably been reflected by some liquidation, but in a general way the market does not expect such a revision in crop figures as would cause anything more than technical readjustments. The determining factors are expected to be the rate of selling in the South and the development of trade conditions. Meanwhile, futures have

(Continued on page 86)

Market Briefs

COTTON: Reactionary after gradual advance.
COTTON YARNS: Active as buyers realize prices are bargains.
COTTON GOODS: Mills turn from defeatist psychology to seek profits.
WOOL: Dealers puzzled by lagging interest.
WORSTED YARNS: Firmer tone but only scattered orders.
WOOLEN GOODS: Price uncertainty delays buying. Fair worsted call.
SILK: Sluggish week, due to backward demand; prices advance.
SILK YARNS: Knitters taking thrown yarns; weavers indifferent. Spinners still await spring season opening.
SILK GOODS: Openings quicken interest in spring fabrics.
RAYON: Yarns enjoy active call; outlook improves.
KNIT GOODS: Fair hosiery movement, but Christmas orders are backward; Rayon underwear prices advanced. Heavyweight underwear and sweaters active.

◆Worsted Yarns Show Signs of Firmness

NO CHANGE is noted in the situation which has prevailed for the last few weeks in the worsted yarn market so far as demand is concerned. There is, however, indication of firmer attitude on the part of spinners. While certain spinners might be willing to consider a small concession on volume business, knitters have been trying to secure such concessions on small lots for nearby or immediate delivery. This proposition is not regarded with favor. Many spinners are beginning to realize there is nothing gained by price cutting. They have found that it promotes little volume business, if any, so under existing conditions they prefer to let the business go rather than to accept a low price without any profit. If this truth has at last been realized, there seems to be hope for the future of the market, provided spinners will adhere to the policy of firm prices.

Strike conditions in New England have been playing some part in developing the firmer attitude. Spinners who have been approached for yarns to fill in where deliveries have been held up, have found a firm attitude on price has been successful. One well-known spinner had an inquiry the other day for some single 18s dyed. He named 95c., but the buyer tried to secure a concession, maintaining he could buy this very yarn at 90c. The spinner stood firm refusing any concession, and got his price, and the admiration of the buyer who admitted the seller was "smart" in appreciating the situation. Let this attitude become unanimous and business will at once show a decided turn for the better.

Knitters have not been getting much new business due to delayed cold weather. If cold weather should develop, as by this time it should, there will undoubtedly be an improvement in yarn interest. Several factors state there has recently been a broader development of inquiry for yarns for nearby delivery. Knitters are still trying to buy single 18s dyed at 90c. for bathing suits, but are finding little response as 95c. is being asked, except for possibly a good size order where a concession of 2½c. might be made. There has been no development in demand for bathing suits as yet, and many do not look for this much before the end of the year.

There is little change in the situation with weaving mills which have had only scattered sales of limited volume. Dress goods have not improved, although cloakings have been taking some small lots of woolen yarns. The price situation in this market has caused confusion and delay, and time is getting short if

High quality mercerized underwear is more popular than ever

●

● To make quality underwear, you must use quality yarns.

B. & C. yarns have always been known for their fine qualities made especially for the knitting trade.

In Natural-Mercerized-Gassed - Bleached - Preshrunk-Colors.

Write today for samples and prices.

ROGER & CRAWFORD

J AND EAST VENANGO STS.,
PHILADELPHIA, PENNA.

French Campbell, Jr.
417 Provident Bldg.
Chattanooga, Tenn.

YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

goods are to be in the hands of cutters-up in time for their season. The strike situation has caused some apprehension among distributors although according to reports work has been given out on commission here and there in an effort to make deliveries against orders.

◆Wools Resist Trend Toward Lower Prices

MANUFACTURERS continue to make low bids on wool but are met by a firmer sentiment than was the case of a week ago. Bids cover practically all grades of territory wools. Buyers and sellers, in many cases, are 2c. apart on a clean basis but most wool houses are quite firm on their asking prices. While the improvement in actual sales is moderate, recent favorable developments have encouraged members of the wool trade to adopt a firmer attitude.

Fundamental conditions are sound. High foreign markets and increased demand from mills with prompt shipments stipulated are encouraging domestic holders. Although the market is near the low basis for the year the numerous inquiries are considered encouraging. The National Cooperative is not offering wools for sale below current levels and in this policy it meets full support from the independents.

The margin between domestic wools and Australian competitive types continues to widen, thereby reducing the probability of imports and for the same reason preparing the way for a general betterment of domestic wool values on resumption of mill buying. The sag in domestic values and the advances in foreign values can hardly be construed as other than favorable to the position of domestic raw materials.

Great Britain continues to buy heavily in the foreign wool markets, England figuring as the chief operator in Melbourne. Merinos and crossbreds are in good demand which has carried prices up about another 5% over last week-end. Offerings are being made more generally from the River Plate markets both from Montevideo and from Buenos Aires, for shipment in November-December. It is estimated that some 10,000 bales have been sold in Montevideo already. England being the chief operator in this market. The South African market is also falling into a line with the higher Australian prices and in recent sales held in Capetown and Port Elizabeth substantial offerings have been well taken in an advancing market.

In the wool top industry consumption and production are probably at low point of year at this time. The stagnation in Lawrence has not apparently been offset by gains elsewhere. Topmakers are looking around for cheap lots of wool to offset their heavy conversion costs brought about by the lowest prices for years on their noil by-production. Quotations are unchanged.

◆Wool Substitutes in Restricted Call

THE wool substitute situation shows no material change for the better. Business coming into the old rag market is so restricted that the prices on the several standard graded stocks are nominal rather than real. The market as a whole is much in favor of any buyers that come along.

The noil market is still in a disagreeable position with the amount of business arriving quite insufficient to go around. Cheap wools have given worsted manufacturers their best opportunity in years and they are pushing their advantage to the limit. It is difficult to move fine noils of average quality at anything above 30c., but really clear fine noils will bring 33c. and choice Australian 35c. or better.

Restricted demand for wool waste is not bringing about any further decline of importance, although in a market so inactive buyers usually can obtain further slight concessions. Holders of threads are expecting a turn for the better.

◆Rayon Active Despite Price Change

DESPITE the holiday interruption and a broad range of price revisions, the rayon industry is enjoying a fairly active week. Reaction to the cut in finer denier levels and the elimination of 65c. 150 denier, putting the latter back on a 75c. basis, was decidely favorable. Manufacturers who had been holding off for weeks due to the hesitancy following the withdrawal of the price guarantee, began to place orders. Trade opinion leans to an optimistic view.

It is still too early to get any real reaction among manufacturers to the cut in cuprammonium levels by a leading producer, but preliminary opinion expressed is that this will increase synthetic yarn consumption among manufacturers of sheers and semi-sheers. The revise also should help in broadening the outlet market. At the moment, manufacturers of sheers are a bit hesitant, which is the normal result of a substantial revision; increased movement of cupra yarn is expected to develop very soon.

◆Knitters Buy Ahead On Thrown Yarn

HOSIERY manufacturers continue the chief customers for the thrown silk mills. These knitters are buying steadily, some as far as three months ahead, but the aggregate of orders is well below what throwsters usually write at this time. Broadsilk weavers, who represent the major outlet, are placing little or no business, due to the backwardness of their spring season. Throwsters are confident of a good yarn movement eventually. Inasmuch as numerous big fabric houses have only just shown their spring lines no immediate rush of business can be expected.

Spun silk sales are light, but mills are getting plenty of inquiries from the broadsilk houses that specialize in fabrics of spun silk content. These customers say they are holding off on their main contracts until spring lines have had a chance to take hold, and some healthy spring movement of yarn is expected toward the middle of this month. Prices are steady.

◆Raw Silk Uncertain About Outlook

RAW silk enters November in somewhat uncertain mood. Manufacturer demand is far from what it should be, and there is little immediate prospect of a pick-up. However, the outlook contains enough favorable elements to suggest a turn before the end of the year. Broadsilk mills have held down on their contracts to an almost unprecedented degree, the chief reason being the backwardness of the spring fabric season. The tendency of the weavers to hold down on printing of spring lines, while it cuts current raw silk sales, will militate to the advantage of the primary market eventually by strengthening the credit position of their customers. The stocks of raw silk in fabric mills are negligible and any acceleration of production of goods would compel quick buying of raw silk. Strength in Japan brought a 10c. advance in prices this week; there was doubt as to how long the new level would hold.

Hosiery knitters show fair activity. Importers have been writing steady business from these mills; orders often cover as far ahead as February and March. Raw silk houses selling to both knitters and weavers are in a fairly satisfactory position as regards sales to the former, and they look for better movement to weavers toward the end of the month.

"..and we recommend that you run a stronger yarn.."

In one mill a section of new automatic looms was recently installed. They were supposed to be the fastest looms ever made. And yet, when production got under way, results fell short of the manufacturer's promises.

The manufacturer was called in and consulted. Followed much experiment and study. And the check-up showed that loom inefficiency was caused, not by the machines, but by weak, uneven yarn.

"You can't get the best out of modern looms," said the loom builder, "unless you run strong, even yarn. No matter how modern your equipment may be, yarn breakage cuts down its efficiency."

And there you have the reason why so many times you'll find an up-to-date mill using Quissett Yarn. Quissett is dependably strong. Pound after pound of it tests high. The twist is accurate. The yarn is even. And that's why loom stops are rare—seconds unusual—and weave shed costs are lower when you run on Quissett Yarn.

Without Quissett you may be paying a premium in the shape of high production costs. Try Quissett and watch how the yardage per loom goes up. Samples, carded or combed in any of the common numbers and plys, are ready for you in your regular put-up. Write.

Quissett Mill
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Wm. M. Butler, Pres.
Edward H. Cook, Treas.
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QUISSETT MEANS QUALITY

Our quotations based on
Cost + a reasonable profit.

QUISSETT
Cotton Yarns
AND
Quitex Spun Rayon

FABRIC MARKET REPORTS

TEXTILE WORLD ANALYST

◆Optimism Revived in Cotton Mill Centers

CONSERVATIVE optimism has replaced the defeatist attitude in the minds of southern mill executives during the last two weeks and, although it is generally admitted that the constructive influences have not yet been reflected in wider manufacturing margins on cotton goods, still there is a more confident tone among the southern mills. Those factors stressed by cotton manufacturers as tending to brighten the outlook are: improved situation with respect to international finance; sustained strength in the raw cotton market; healthy statistical position with reference to stocks on hand.

Manufacturers of print cloths insist that existing prices afford them absolutely no profit and that some business has been accepted at actual losses running as high as 6c. per lb. when adequate allowances for depreciation, taxes and other contingent charges are included in the cost figures. With this situation existing, many mills are refusing to accept contracts for goods to be delivered in 1932 at current price levels, and few print cloth manufacturers are sold ahead for more than two months.

The holding of this year's cotton crop by the agricultural interests continues firm in many sections of the South. Weather of the last two weeks has been ideal for harvesting the staple and the gins have been running day and night. The majority of farmers, however, are holding their cotton and in South Carolina where many sheeting and print cloth mills purchase local cotton, the basis is considerably higher than last year. It has been reported in some quarters that southern mills are buying two and three years' supply of cotton but, although this is true in some instances, the great majority of mills have not yet adopted this policy. The large cotton shippers have leased many warehouses, including several owned by mills, in the cotton manufacturing area, and are beginning to accumulate large quantities for storage at points of close proximity to the mills.

Operating schedules have been increased by several gray goods mills and a few yarn mills this month but the amount of overtime running has generally been exaggerated by newspaper reports. Very few print cloth or narrow sheeting mills have returned to night shifts and, as a leading South Carolina manufacturer recently stated to the Southern Editor of TEXTILE WORLD, there is little incentive to adopt the double shift schedule as a means of saving 2 to 3c. per lb. in overhead costs when the present market price on many print cloth constructions affords the manufacturer, not a profit, but an actual loss of 5 to 6c.

Uncertainty in the rayon market, caused by the withdrawal of price guarantees by yarn producers, has resulted in reduced activity in many rayon consuming centers. Several weavers of rayon goods have curtailed production during the last two weeks and state that their customers are reluctant to place any business until the 90-day guarantee has been reinstated. However the new price lists announced last week have already served to bring about a return of confidence in some quarters.

◆Mild Weather Slows Wool Goods Sales

SLUGGISH weather conditions are having an adverse effect on movement of spring wool goods lines. Cutters-up have begun placing orders for men's worsteds, but contracts are accompanied by much price pressure and mills have difficulty in getting business at levels which will allow profit. The volume of worsted orders for spring placed so far is well below normal, and weavers do not look for any early pick-up. Sales managers of two important Fourth Avenue houses this week said their observation of the New York market showed a definite policy of postponement among buyers; these executives do not expect volume movement of spring lines to develop before January.

Inasmuch as mills are holding down on production, and the Lawrence strike situation is further reducing output, supplies of fabrics may prove inadequate when spring demand does show itself. While the cry of "shortage" has been raised so often that it has lost force, there does seem to be a basis for such forecasts this season. The determining element will be the quantity of business that comes when the corner is turned.

WEATHER DECIDING FACTOR

Overcoatings movement is somewhat better than last week, but the mild weather is discouraging overcoat cutters from extensive contracting, and their operations during the next two weeks will hinge largely upon weather conditions. A sustained cold snap would do much to stimulate yardage sales. Women's wear fabric demand has eased off, pending the new openings. Some foremost manufacturers of women's wear wool goods showed their new lines this week, and others are about ready to open. Once the buyers have had a chance to study all the lines, some pick-up in movement of these goods may be looked for.

◆Good Response to Spring Broadsilks

SHOWINGS of spring broadsilks received real impetus this week, following informal openings by the few large companies which had not shown their lines. There were numerous buyers in the New York market, both from stores and the dress trade, and they evinced plenty of interest, though not buying. Mill representatives do not look for much spring business before the middle of November. They are confident of the outlook, particularly as regards stocks. The strong stand taken by important firms in refusing to print spring fabrics until orders are practically in their hands, is expected to help greatly toward a healthy spring season. Spring fabrics now being offered cover a varied range of both prints and plains; the plains are surprisingly numerous for a spring season, and there are indications that spring novelties may be less important than usual. Florals, large and small, predominate, and there are several striking new pastel shades which are effective in prints. Geometric offerings are included in the newest lines though not in great number.

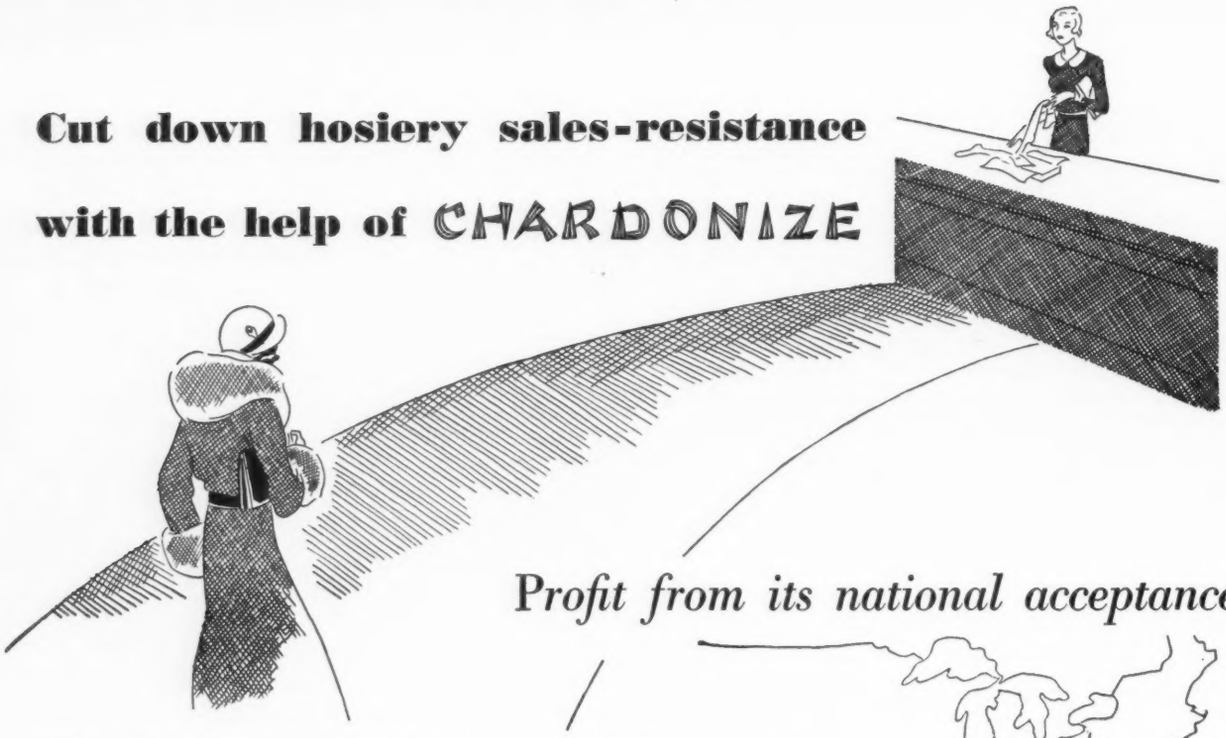
Broadsilk sales are light. There is some spot call, chiefly fill-in business, for winter numbers. Cantons continue moving, and velvets are a leader among duplicate orders. Indications point to a moderate carry-over of winter season's stocks. The larger companies curtailed through September and October to such a point that they will have only minimum stocks to write off.

▸Boston Perfects Plans For National Wool Week

Plans for the celebration of National Wool Week in Boston include radio broadcasts, special displays by retail stores, banners, and displays in railroad stations. It is estimated that retail stores will spend $10,000 additional in advertising and among the prominent department stores who are cooperating Wm. Filenes Sons Co. will utilize 32 store windows and Jordan Marsh Co. half its windows on Washington St. as well as a number on Summer St.

The local committee, which is cooperating with the national organization, broadcast a program over WNAC on Friday and will present further programs over the same station Sunday, Wednesday and Friday of the coming week. The committee will also do some advertising to tie-in with the retailers. W. S. Febiger heads the committee with Abbott Stevens, chairman of the finance committee. A meeting of mill men to enlist support was held Oct. 29.

Cut down hosiery sales-resistance with the help of CHARDONIZE



Profit from its national acceptance

The fashion superiority of Chardonize was immediately recognized when this yarn was introduced. Its permanent dull luster and soft texture quickly established its leadership in the popular price field.

This leadership has been maintained . . . and today Chardonize has full, unchallenged national acceptance. During the past few months retail merchants from coast to coast have demonstrated this acceptance by advertising Chardonize to more than forty million women. The Chardonize name has come to be acknowledged everywhere as a symbol of known value.

This is unquestioned evidence that Chardonize hosiery is easier to sell . . . that Chardonize is reducing sales resistance every day, all the way to the consumer.

Why not do your selling the smoothest, surest way?

Why not stick to Chardonize, the accepted leader in its field?

Retailers the country over are advertising Chardonize by name

1. From March to September we clipped from 672 newspapers in 43 states 1992 retail advertisements which mentioned Chardonize by name.

2. These advertisements were placed by merchants of their own accord, without our urging or help.

3. The combined circulation of these newspapers is almost 20 million.

4. This indicates that about twice that many women, or 40 million, were told about Chardonize by retail merchants.

5. The number of retail ads mentioning Chardonize keeps on increasing. We clipped almost 5 times as many ads in August and September as in March and April.

CHARDONIZE IS A TUBIZE PRODUCT

Its widespread imitation is the best endorsement of Chardonize.

The Tubize Chatillon Corporation makes a yarn for every purpose—by the viscose, nitrocellulose or acetate process.

TUBIZE CHATILLON CORPORATION · 2 PARK AVENUE, NEW YORK · PLANTS—ROME, GA., HOPEWELL, VA.

◆Rayon Rise Lifts Underwear Prices

ELIMINATION of the 65c. grade of 150 denier rayon has brought advances in certain lines of rayon underwear, as these now will be made of the 150s selling at 75c. Buyers are somewhat hesitant, the tendency being to wait until the extent of the cut is definitely established. Other spring lines show little progress; the price reduction of 10 to 12% has not stimulated demand, and backward weather conditions are blamed for the delay. The fact that some important mills showed their new lightweights only last week also was a factor in discouraging buying, however; and now with most lines open, lightweight underwear movement should improve.

Cold weather, while not needed to spur winter underwear sales, would help reorders and would also help movement of spring lines. The continued mild temperatures of end-October discouraged jobbers and retailers from looking ahead, as their ribbed underwear lines do not move too well. Mill turnover on heavweights is as satisfactory as could be expected, in view of the backward season. Mills are heavily oversold, and are trying to make up in the current rush of business for the late start. Heavyweight underwear prices continue firm and indications point to steady levels for the remainder of the season. Thanks to a rigid control of stocks these mills should end the season with very low inventory.

◆Christmas Hosiery Congestion Seen

HOSIERY position is somewhat improved, particularly as regards women's full-fashioned mesh numbers which promise to be an active holiday proposition. Christmas business develops very slowly, and orders are far below normal; indications point to a heavy congestion of Christman buying toward Thanksgivings Day, unless the next two weeks register decided pick-up. Stocks are moderate and both jobbers and retailers regard meshes as a likely gift line though they are averse to backing up their views with contracts. Women's staple call leans to gunmetals and off-blacks, in which lines there is a steady spot movement. Some mills have received good-sized Christmas orders for both staples and mesh numbers, but these are exceptions; mills complain generally of the hold-off tendency as regards Christmas. Full-fashioned prices are fairly steady; there is more distress goods available than a month ago, but no sharp weakness is likely, in view of the proximity of holiday increase in orders.

Competition continues keen, and buyers have difficulty in ascertaining true levels which is partially responsible for the insistence on spot buying. Mills view the next ten days as a vital period in deciding whether they stand to lose substantially in Christmas orders, due to congested buying.

Half-hose commitments for Christmas are even more backward than women's lines. Holiday business to date is so light that there is no definite style trend. Current call for men's sox leans to the better quality grades which is seen as a healthy sign for Christmas. Clocks in black and navy shades, made to retail at 75c. and $1.00 are selling steadily, though all orders are small. The 25 and 35c. fancies continue active for quick shipment.

Boys' golf hose move unevenly; children's and infants' lines for spring are backward.

◆Swimsuits Quiet; Mills Are Confident

SWIMSUIT sales for 1932 are less than this time last year, but manufactures are confident that the next few weeks will see a pick-up. The hesitancy is regarded as natural, in view of general conditions. Plenty of original orders are being placed, but the size of each is below usual proportions; women's pastels are going strong in sunbacks, and promise to be more important than had been expected. Men's staples move fairly well. Price tone has steadied, buyers taking the view that the recent cut will not spread further.

Heavyweight sweater lines are still a high pressure proposition at the delivery end; mills have shipped pretty well all their initial orders but they now are sold ahead on duplicates and distributors have difficulty in getting early delivery of these. Lightweight sweater demand has slackened, due to the approach of the new season. Spring lightweights for 1932 are due to open Nov. 16 and no big buying of these lines is looked for, prior to the openings.

Manufacturers of spring sweaters are hopeful but not too confident of a quick response to the showings. They regard the season as inevitably backward and buyers probably will not place big business at the openings.

▸Underwear Association Moves Utica Offices

The Utica, N. Y., offices of the Associated Knit Underwear Manufacturers of America were moved this week from 48 Mann Building, to 104 Union Station Building.

▸Hosiery Length Standards

(Continued from page 55)

Infants' ribbed standards were also modified to meet the point raised by Mr. Squibb. Standards proposed for folded cuff lengths for boys' gold hose and children's ⅞ hosiery were adopted. It was also the action of the conference that the date for proceeding with the new production and the clearance of existing stocks, should be set for March 1, 1932. The standards were also adopted as those of the American Standards Association. It was also the feeling of the conference that provision should be made for revision of these standards once a year.

The standards follow:

Women's Hosiery Size	Standard Length in Inches	Tolerances, Plus or Minus Inches
All	30	1
Lengths other than 30 in. can be had on order.		
Men's Hosiery:		
9	14	½
9½	14	½
10	14	½
10½	14½	½
11	14½	½
11½	14½	½
12	14½	½
Boys' Golf Hose:		
5– 5½	10½	½
6– 6½	12½	½
7– 7½	14½	½
8– 8½	16½	½
9– 9½	18½	½
10–10½	18½	½
11	18½	½
Children's and Misses' Ribbed Hosiery:		
5– 5½	15	½
6– 6½	17½	½
7– 7½	20½	½
8– 8½	23½	½
9– 9½	26½	½
Children's ¾ Hosiery:		
5– 5½	10½	½
6– 6½	12½	½
7– 7½	14½	½
8– 8½	16½	½
9– 9½	18½	½
10–10½	18½	½

Children's ¾ and ⅞ Hosiery:	Ribbed	Flat	
5– 5½	9	9½	½
6– 6½	10½	11½	½
7– 7½	12½	13½	½
8– 8½	14½	15½	½
9– 9½	16	16½	½
10–10½	16	17	½

Infants' Ribbed Hosiery:		
3	7	½
3½	8	½
4	10	½
4½	11	½
5	12	½
5½	13½	½
6	15	½
6½	16½	½
Infants' and Children's Socks:		
4– 4½	5	½
5– 5½	6	½
6– 6½	7½	½
7– 7½	8½	½
8– 8½	9½	½
9– 9½	10½	½

STANDARD FOLDED CUFF LENGTHS

Boys' Golf Hose:		
6– 6½	3	½
7– 7½	3	½
8– 8½	3½	½
9– 9½	3½	½
10–10½	3½	½
Children's ¾ Hosiery		
6– 6½	2½	½
7– 7½	3	½
8– 8½	3	½
9– 9½	3½	½
10–10½	3½	½

⚜ *To tell you what you want to know* about rayon yarns and their more profitable use. An advertisement of the industrial series.

ADVENTURES IN RAYONLAND

or THROUGH THE MAGNIFYING GLASS!

EVEN the jeweler's skill enters into the making of Crown Brand Rayon Yarns. ⚜ To control the accuracy of each individual filament, we make our own spinnerettes, or thimble-like caps through which the viscous mixture is forced to form a spray of fairy fine threads. ⚜ These caps are an alloy of platinum and gold. The invisibly fine openings at the end are bored by miniature drills in the small, skilled hands of women artisans. The work is done entirely under magnifying glass, as the boring must be accurate to 1/10,000 of an inch. Each opening is also smoothed and polished on both sides in two additional operations. ⚜ All these details of care and skill result in smoother, finer, yet stronger and more elastic rayon yarn and help to explain why Crown Brand is the world leader. More than thirty different varieties are available and we'll be glad to help you choose the one best suited to your type of weaving or knitting.

THE VISCOSE COMPANY

200 Madison Avenue **New York City**

◆ Manville Jenckes Makes Progress

THE ability of Manville Jenckes Co., Pawtucket, R. I., to pay its debts out of current assets was improved by $383,800 during the four-months period from Feb. 27, 1931, the date of the appointment of temporary receivers, to and including June 27, 1931. This substantial progress was reflected in the report submitted Thursday of this week to the Superior Court, State of Rhode Island, by Zenas W. Bliss and George R. Urquhart, receivers. Messrs. Bliss and Urquhart were appointed receivers on Mar. 10, 1931. Their report covered operations under both the temporary receivership and the receivership.

On Feb. 27, the total current assets of the company and subsidiaries were $202,127 in excess of total current liabilities, while on June 27 the total current assets of the receivers and subsidiaries were $585,927 in excess of total current liabilities.

The net profit from operations during the four months, after depreciation and all charges, including receivers' fees and attorneys' fees, was $257,485. During this period approximately $95,000 was spent in carrying idle property, and in starting up mills, moving machinery and some incidental expenses of a non-recurring nature.

The report also brings out the interesting information that on Feb. 27 the company had on its payrolls 2,982 employees while on June 27 the receivers had on their payrolls 3,954 employees. Unfilled orders for gray goods increased from 7,593,569 yd. on Feb. 27 to 8,938,880 yd. on June 27, while during the same period unfilled orders for tire fabric increased from 3,913,030 lb. to 4,077,053 lb. However, owing to market price levels, the value of unfilled orders did not increase in proportion; this value was $2,257,359 on Feb. 27 and $2,312,054 on June 27.

Careful inventory control was reflected in the statement in the report to the effect that the only raw material on hand on June 27 not required to fill orders was 2,000 bales of cotton, and no goods except 9,172 pieces of voile had been manufactured in excess of accepted orders. It was explained that, of these 2,000 bales of cotton, it was necessary to purchase 1,000 bales of Egyptian to protect a contract which was later advantageously adjusted without using that raw material, but it is gradually being used up without loss.

Kilburn Mills Loss

The balance sheet of the Kilburn Mills, New Bedford, Mass., as of Oct. 3, 1931, reveals an operating loss of $103,618 during the fiscal year. After allowing for depreciation the loss was $188,618. During the year the capital stock was reduced from $2,250,000 to $1,687,500 by the payment of $25 per share of stock, requiring a cash disbursement of $562,500.

Merger Proposition Abandoned

Further action toward the merging of the Pilgrim Mills, Fall River, Pemaquid Mills, New Bedford, and the Queen City Mfg. Co., Burlington, Vt., has been abandoned as a result of opposition to the plan voiced by certain stockholders of the Pilgrim Mills at a recent special meeting of shareholders of the latter corporation. The substance of the opposition was that the Pilgrim Mills would benefit more quickly if a turn came in the market as an individual corporation rather than merged with the two corporations as planned. Subsequently, stockholders of the Pemaquid Mills, who had already approved the merger plan, rescinded their approval.

Compromise Arcadia Matter

Compromise settlement in the petition for appointment of a receiver for Arcadia Mills, Spartanburg, S. C., was reached by lawyers for opposing factions in the litigation Oct. 30, and was approved by Judge G. B. Greene, who signed a court order setting forth terms of the agreement, as follows:

1. No receivership will be appointed at this time, but the court will retain jurisdiction of the motion, while stockholders will be given an opportunity to work out their differences;

2. Stockholders' meetings of Arcadia Mills will be prohibited for a period of six months, except informal discussions or negotiations looking toward the adjustment and final settlement of existing differences;

3. H. A. and W. P. Ligon shall repay within 30 days to the Arcadia Mills a balance of $27,000 as shown by the account on its books against the estate of Dr. H. A. Ligon;

4. The 200% stock dividend declared by directors on the common stock of Arcadia Mills on Oct. 1, 1931, will be recalled and cancelled;

5. Plaintiffs in the receivership action will nominate two directors who shall replace two present members of the board;

6. Any person who had delivered stock into the voting trust agreement may withdraw the same within the next 90 days, if they so desire;

7. Arcadia Mills will pay the expenses and fees of the plaintiffs' attorneys;

8. Proposed refunding bonds and mortgages will be deferred until questions as to their legality and validity are decided by the court;

9. H. A. Ligon, as president and treasurer, and W. P. Ligon, as vice-president shall together receive a salary at the rate of not exceeding $10,000 a year; and

10. All officers, agents and employees of Arcadia Mills are restrained and enjoined from withdrawing funds of the mill except for purposes which are connected with its operation.

Suit for appointment of a receiver for the mill was filed in Spartansburg, Oct. 9, in which it was alleged that assets of the corporation had been dissipated under the management of the Ligons, and that the mill was on the verge of insolvency. Judge Greene expressed great pleasure upon signing the compromise agreement and it was his hope that final settlement would be an amicable one.

Bourne Mills Loss

Directors of the Bourne Mills, Fall River, Mass., reported to stockholders this week that "although the net current assets have decreased $9,403 during the past year, this represents the total loss." Before arriving at this figure, $44,000 was charged off from inventory values and $803,478 from the book value of plant and machinery to bring the latter into line with current cash values.

▶ New England Textile Stocks

Quotations at "Public Sale" are based on last sales at Boston Public Auctions and Boston Stock Exchange. Bid and Asked prices are latest quotations of dealers.

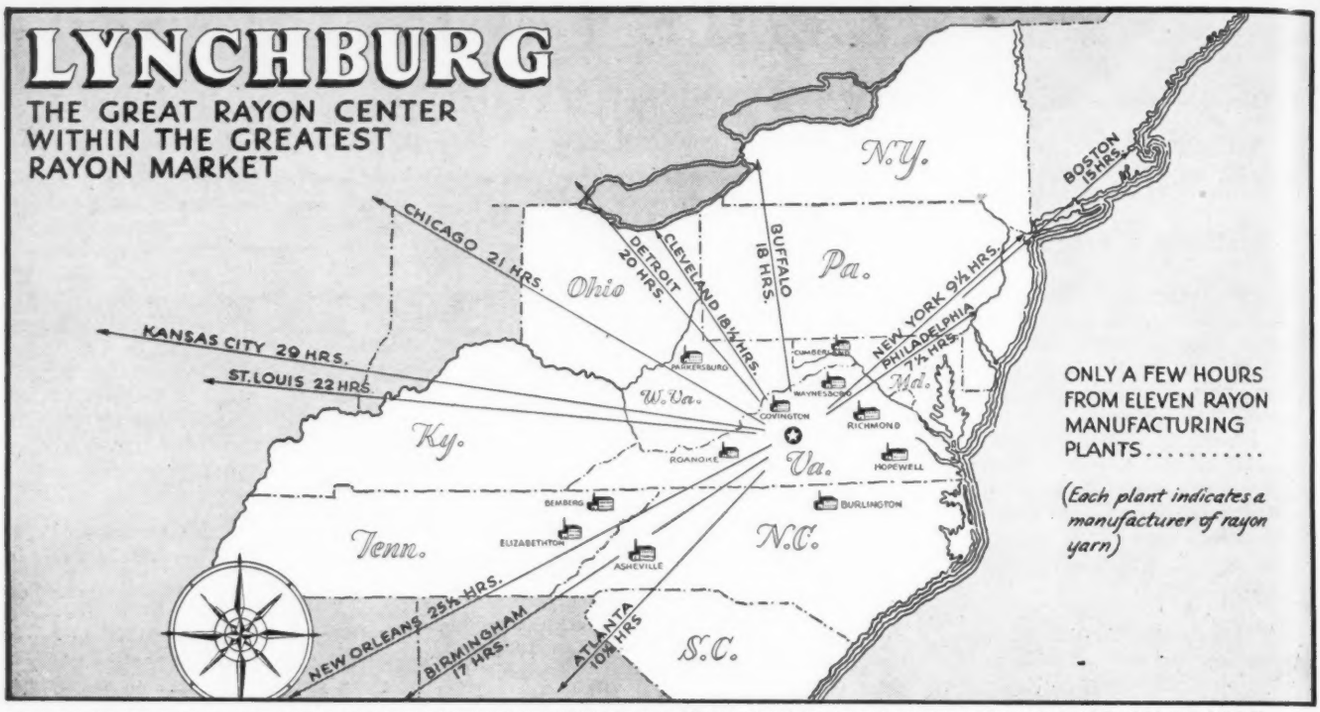
	Sale	Bid	Asked
Am. Mfg. Co., pfd.	50	48	..
Amoskeag	4½	..	..
Arlington	23	17	..
Associated Textile	10	10	..
Bates	60	41	..
Berkshire Associates, com.	12½	2	4
Berkshire Associates, pfd.	40½	10	..
Bigelow-Sanford, com.	26	..	..
Boot Mills	120½	40	60
Edwards	80½	42	46
Esmond, pfd.	98	95	99
Farr Alpaca	35½	27	..
Hamilton Woolen	55	43	..
Hill	7	4	6
Indian Orchard	10	..	10
Ludlow	66½	64	66
Merrimack, com.	35	8	14
Nashua, com.	7½	4	8
Nashua, pfd.	29	22	25
Naumkeag	50	49	53
Newmarket	16½	7	11
Otis	45	40	44
Pacific	11	..	..
Pepperell	41½	37	42
Plymouth Cordage	56	..	55
York	8½	6	..

▶ Textiles on N. Y. Exchanges

The following shows the movements of the leading textile stocks listed on the New York Stock Exchange and Curb for the week ended Nov. 2:

	High	Low	Last Sale	Net Ch'ge
Adams Millis	29	27½	28½	—½
American Woolen	5½	5½	5½	+½
American Woolen, pfd.	26½	22½	25½	+½
Belding-Heminway	5½	5	5	—¼
Cannon Mills	19	18½	18½	—½
Century Ribbon	6½	5½	6½	—½
Collins & Aikman	10½	9½	10½	—½
Consolidated Textile	½	½	½	—¼
Duplan Silk	10	10	10	...
Durham Hosiery, pfd.	21	21	21	...
Gotham Hosiery	8½	8	8½	+½
Industrial Rayon	34½	30	33	+½
Kayser, Julius	10½	9½	10	...
Kendall, pfd.	39	38	39	+5
Mallinson	1½	1	1	—¼
Mohawk Carpet	10	9	10	+1
Munsingwear	15½	15½	15½	+½
Pacific Mills	11	11	11	—¼
*Pepperell	40	40	40	...
Real Silk Hosiery	3½	3½	3½	—½
*Tubize	4½	3½	3½	...
United Piece Dye Works	14½	14½	14½	—1½

*Listed on Curb.



LOCATED FOR QUICK LOW COST DISTRIBUTION TO A POPULATION AREA OF OVER 49 MILLION PEOPLE . . .

Where Else

can you find so many favorable factors *for Mills using Rayon?*

There was a time when good management could surmount the handicaps of poor plant location; but that time is past. Competition can match everything but "an act of God" and the advantages bestowed by nature. Lynchburg offers you the following.

Proximity to raw materials! **Eleven giant Rayon plants radiate from Lynchburg.**

Climatic conditions! **Temperature climate the year 'round with no extremes of humidity . . . 850 ft. elevation.**

Labor! **Plentifully supply of male and female workers of American origin. Favorable living conditions reflected in lower wages. Strikes and agitation unknown.**

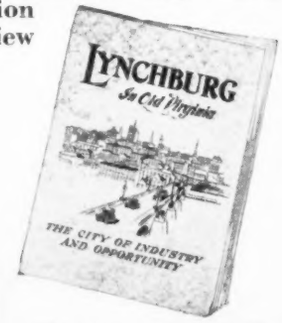
Power! **Cheap hydro-electric power at low rates. Steam coal from nearby coal fields . . . fuel oil from local stations.**

Taxes! **The lowest of any other city of comparative size.**

Shipping! **Ample railroad distribution over *three* great trunk lines intersecting here. See map for time intervals to principal cities.**

A good place to live! **City manager form of government. 40,000 population. A thoroughly modern community . . . progressive . . . alert and alive. Good homes, schools, churches, fraternal and civic organizations.**

Let us send you "What About Lynchburg." It is totally devoid of elaboration —a quick, thumb-nail review of Lynchburg advantages.



LYNCHBURG CHAMBER OF COMMERCE
LYNCHBURG, VA.

LYNCHBURG

- IN OLD VIRGINIA

Level Shades and Fast Colors in Silk Piece Goods

(Continued from page 57)

acid colors which equal many vat dyes in this respect and which do not present as many difficulties from dyeing standpoint. The following dyes have been found to be quite suitable: Alizarine Sky Blue B (C.I. 1088), Lanasol Orange G, Lanasol Orange 2R, Alizarine Rubinole R (C.I. 1091), Lanasol Red G, Alizarine Cyanine Green (C.I. 1078), and Fast Light Yellow 3G (C.I. 639). The yellow is quite fast either by itself or in combination with a red, but it is not as fast when dyed with the blue; and this combination must be avoided if possible. Either of the oranges are satisfactory when dyed with the blue.

The above-mentioned dyes may be applied in the usual overhead reel bark, and they work best in a dyebath containing acetic acid and glauber salt. The goods should be first wet out with only the glauber salt in the bath. Then the color and the acid should be added slowly in small portions until the desired shade is obtained. When the Lanasol dyes are used, better exhaustion of the color will result if the bath is allowed to cool down to about 140° F. at the end of the dyeing.

In recent years the matter of wash fastness has assumed much more importance than light fastness in the piece dyeing of silk fabrics. In this connection the experience of large merchandizing organizations has shown that the class B grade of fastness as described in the *1930 Year Book of the American Association of Textile Chemists and Colorists* on page 91, gives reasonable service in actual practice.

The fastness requirements, as outlined above, can be met with a selected line of direct colors, of which the following are excellent examples: Benzo Fast Blue 4GL, Benzo Orange R. (C.I. 415), Diamine Scarlet 3B (C.I. 382), Benzo Fast Red 8BL (C.I. 278), Brilliant Benzo Fast Violet 4BL (C.I. 353a), Diamine Fast Yellow FF (C.I. 814), and Benzo Fast Black L. When greater brilliancy is desired, particularly in light shades, it may be necessary to use small amounts of such basic dyes as Victoria Blue B (C.I. 729), Rhodamine B (C.I. 749), and Crystal Violet (C.I. 681). These dyes may also be applied in an overhead reel bark, and the dyebath is best made up with monopole oil and disodium phosphate. In the case of medium and heavy shades, a certain amount of acetic acid may be added to exhaust the color. The dyeing is carried out at the usual temperature of 180 to 200° F. It is often followed by a light soaping at 140 to 160° F. in order to remove any loosely held color.

Piece dyeing of tin-weighted silk has assumed great importance within the past few years. It is probable that this particular type of dyeing has given more trouble to dyers than any other of the common methods. Very often it has been found that the dyestuffs or dyeing procedure have been blamed for poor results, when in reality the unevenness in color was directly attributable to imperfect weighting. However, the choice of suitable dyestuffs for tin-weighted silk is of sufficient importance to warrant considerable thought and attention.

Both acid and direct dyes are used successfully for the piece dyeing of weighted silk. In the former group the so-called neutral-dyeing dyes have proved to be most satisfactory. The following are typical examples of these neutral-dyeing acid dyestuffs: Fast Wool Cyanone R and 3R (C.I. 289), Patent Blue A (C.I. 714), Brilliant Milling Green B (C.I. 667), Formyl Violet S4B (C.I. 698), and Azo Yellow (C.I. 146). For black and gray colors two dyes of special merit are Acid Black 4BF and Acid Alizarine Grey G. Among the direct dyes the following are used quite extensively: Diamine Sky Blue (C.I. 520), Benzo Fast Orange S (C.I. 326), Erie Catechine G and 3G, Diamine Green B (C.I. 593), Diamine Scarlet B and 3B (C.I. 382), Erie Pink 2B (C.I. 128), Chrysophenine (C.I. 365), and Direct Black (C.I. 581). The dyebath commonly contains monopole oil and either glauber salt or disodium phosphate. The dyeing is carried out in an overhead reel bark at the usual temperature of 180 to 200° F.

Application of Vat Dyes

An interesting development in the dyeing art is the application of vat dyes to silk piece goods. It is not feasible to produce very dark shades by this method, but a certain number of light delicate shades of exceptional fastness to washing have been produced successfully on a commercial scale. The dyeing is carried out in a jig, which preferably is constructed of monel metal.

The silk is first wet out by giving it two runs in a cold bath containing 1 pint of caustic soda solution (30° Bé.) in approximately 90 gal. of water. The amounts of the materials in the dyebath vary with the amounts of dyestuff required to match the shade but are approximately as follows: 1 to 4 qt. of caustic soda solution (30° Bé.), 1 to 3 lb. of anhydrous sodium hydrosulfite and 1 to 3 qt. of monopole oil in 90 gal. of water. The dyestuff is reduced and dissolved separately in a small volume of water with small amounts of caustic soda and hydrosulfite. About two-thirds of the reduced color is added to the dyebath, and the silk is given several runs. Then the remainder of the color is added, and the silk is given a sufficient number of runs to match the required shade.

With some vat dyes the temperature of the dyebath may be raised to 110° F. after the first couple of runs, but most of them are preferably dyed cold. After the completion of the dyeing, the pieces are washed in several changes of cold water, with about two runs to each change, and then acidified by several runs through a bath containing 1 qt. of sulfuric acid (66° Bé.) in 90 gal. of water. After washing again in cold water on the jig, the goods are transferred to an overhead reel bark and soaped for 30 min. at 200° F. in a ½% soap solution. The following vat dyes have been found suitable for this purpose: Indanthrene Blue GCD (C.I. 1113), Hydron Brown G, Anthrene Jade Green (C.I. 1101), Indanthrene Orange RRT, Anthra Red RT (C.I. 1142), Indanthrene Red BN (C.I. 1162), Indanthrene Violet 2R (C.I. 1104), and Indanthrene Yellow G. (C.I. 1118).

With the introduction of the Indigosols, or so-called soluble vat dyes, it was anticipated that wash-fast silk could be produced without the difficulties which are inherent in the ordinary vat dyeing process. However, the relative weakness in tinctorial strength of these dyes combined with several special difficulties in connection with their application, have hindered their extensive adoption by the silk piece dyers. These new dyes can be applied to silk piece goods in an acid bath in a manner very similar to the ordinary acid colors and then developed by treating for 30 min. in a bath containing sodium bichromate and sulfuric acid.

▸ Commission Throwsters Plan New Organization

A new organization which will have as its chief aim the standardization of practices in commission throwing, is projected by a group of leading commission throwsters. These factors who represented numerous organizations of the trade, held a conference recently at Stroudsburg, Pa., and addresses were made touching on the various aspects of the idea. The plan is still in the early stages. Numerous important factors urged steps toward coordinating the different aims of the throwing trade through a general organization. Among those reported as being interested in the plan are: Sidney Bliss, of the Bliss Silk Throwing Co.; John D. Dunlop, president of Jno. Dunlop's Sons, Inc.; H. J. Tynan, of the Tynan Throwing Co.; John Salandi, of the Vulcan Silk Co.; Charles Raine, of Frisbie Silk Co., and Bayard D. Lipps, of Associated Throwsters Corp.

▸ T. S. Bernie to Concentrate on Mill Representation

Thomas S. Bernie Co., New York, (formerly Colter & Bernie, Inc.), who has been acting as hosiery commission merchant and invoicing direct to the trade for many years, discontinued this end of the business as of Oct. 31. The company will continue, however, to represent several hosiery manufacturers catering and dealing direct with wholesalers and chain stores. Among the mills represented, are the Portage (Wis.) Hosiery Co., bundle wool socks, and the Georgia Mfg. Co., Columbus, Ga., bundle grap mixed cotton socks.

▸ Boston Wool Receipts

Receipts of domestic and foreign wools at Boston, also imports at Philadelphia and New York for the week ended Nov. 3, based upon data compiled by the Department of Agriculture, follow:

	Week Ended Nov. 3	—Total to Date— 1931	1930
Domestic	433,000	243,577,000	235,391,000
Foreign	580,000	35,683,000	51,859,000
Total	1,013,000	279,260,000	287,250,000
IMPORTS AT PRINCIPAL PORTS			
Boston	580,000	35,683,000	51,859,000
Philadelphia	757,000	45,612,000	38,978,000
New York	1,812,000	46,358,000	38,030,000
Total	3,149,000	127,653,000	128,867,000

▸ Cotton Market Report

(Continued from page 75)

sagged off from recent high levels but there has been little evidence of spot pressure, and the basis has been generally well sustained. This has imparted a fairly steady undertone to the market, although the recent advance to 7.06 for January contracts here has been followed by declines of about 45 points and reactionary sentiment has been considerably in evidence.

The first few of the private end-October crop reports to make their appearance have shown continued divergencies of opinion as to the size of the yield, but have tended to support the expectation of a possible increase in the Government's crop report next week. The report of Clement Curtis & Co. placed the end-October indication at 16,170,000 bales compared with 15,908,000 at the end of September while the Fairchild Bureau increased its estimate from 15,828,000 to 16,748,000 and the Cochran Bureau from 14,830,000 to 15,243,000 bales. The last Government report, it may be recalled, pointed to a crop of 16,284,000 bales and there are many in the trade here who think it probable that the next report will be in the neighborhood of 16½ million. This idea is based upon the generally favorable character of the weather during October. There have been rains which may have led to some loss of lint in a few western and central belt sections and probably damaged the grade of cotton in the fields to some extent, but on the whole the fall weather has been better than usual so far and the light to heavy frosts which were reported this week were probably considered more beneficial than otherwise. A feature of this crop appears to be the large size of the bolls and while later receipts are likely to show some falling off in the grade, early receipts have been particularly good both as to grade and staple. It will probably prove one of the very best as well as one of the largest crops of recent years, perhaps the best in spinning quality, although somewhat smaller than the crop of 1926 in size.

The combination of such good cotton at such low prices has undoubtedly encouraged forward buying by spinners who were able to adopt such a policy or by merchants and has also promoted what would seem to have been one of the most general and most determined holding movements ever in evidence at this season of the year.

◆ Spinnable Wastes In Better Demand

THE last two weeks have witnessed better business in cotton wastes than any similar period during the last two or three months, according to many dealers. The turnover in spinnable materials was quite good and it was difficult if not impossible for users of comber to buy the best quality at anything under 6c. Choice peeler strips also were very firm at 5½c. to mill buyers, with dealers trying to cover on both comber and strips at 5 and 5½c.

Waste dealers were much interested in the statement issued by the American Cotton Waste & Linter Exchange this week that cotton wastes undoubtedly would not be subject to the recently proposed increases in freight rates. While waste prices are low actually they are not much out of line with raw cotton prices, and any increase in freight rates on the former while raw cotton rates remained stationary would react to the detriment of the cotton waste market.

▸ Technical Proficiency Stressed by Piedmont Chemists

In textile manufacturing, and particularly in finishing operations, the emphasis should be placed on the buying of results—not merely the purchasing of products—and, in order to determine the relative efficiency and economy of results, all plants should be provided with competent technical knowledge, according to Paul F. Haddock, southern manager, A. Klipstein & Co., Inc., Charlotte, N. C., who addressed the annual meeting of the Piedmont Section of American Association of Textile Chemists and Colorists, held at the Charlotte Hotel, Charlotte, N. C., Oct. 31, on the subject of "Purchasing Products and Selling Results."

John L. Crist, of Charlotte, sales representative of the Calco Chemical Co., was elected chairman of the section during the business session. A. R. Thompson, Jr., retiring secretary, who was recently appointed superintendent of the North Carolina Finishing Co., Salisbury, N. C., was elected vice-chairman, while J. D. Sandridge, of Greensboro, N. C., and George P. Feindel, of Greenville, S. C., were elected secretary and treasurer, respectively. Samuel L. Hayes, Hartsville, S. C., retiring chairman, acted as toastmaster at the banquet and presided over the business session.

F. Sterling Wilson, chief of the business research section, marketing service division, U. S. Department of Commerce, Washington, D. C., delivered an address on "Some Commercial Aspects of the Textile Industry." He stressed the importance of adequate knowledge regarding markets and costs, and described a number of studies undertaken by his department, pointing out possible applications in the textile industry.

Every finishing plant, according to Mr. Haddock, should employ a research or plant chemist, whose duty would be to check the various processes and make it possible for the manufacturer to ascertain results. He mentioned particularly the importance of technical knowledge in purchasing suitable starches, softening compounds, dyestuffs and other chemicals.

▸ Unsold Wool Stocks

The Boston Wool Trade has announced the total of unsold stocks of wool on hand as of Oct. 15, 1931, reported in Boston, Philadelphia, Chicago, St. Louis and Louisville. The total also includes the stocks on hand as reported by the National Wool Marketing Corp. as of Oct. 15, 1931.

Domestic:	Pounds
Territory, California, Texas (in grease)	151,781,937
Fleeces (grown east of Mississippi River, but including Minnesota, Iowa, and Missouri)	20,928,423
Pulled (in grease)	6,348,752
Scoured	6,660,693
Total Domestic	185,719,805
Foreign (in and out of bond): Merino and fine medium crossbreds (not including low crossbreds which are used largely for carpet purposes)	3,950,258
Grand Total	189,670,063

Cheney Adopts Quality Control Plan to Stabilize Broadsilks

THE outline of what amounts to a quality control plan, aiming to prevent wholesale use in low-price garments of broadsilk fabrics made for quality trade, was announced Wednesday by Cheney Bros. The plan, which is part of a significant new production and distribution policy by Cheney Bros., which it is hoped will help toward stabilization of the broadsilk industry, was made public in an address by Frank D. Cheney, general manager, at a private press showing of spring prints, held by Cheney Bros. at the Vanderbilt Hotel, New York.

Asserting that the new season, "if handled sanely, will be safe and profitable for garment and silk buyers, garment manufacturers and silk producers alike," Mr. Cheney said the firm's new policy was devised to protect all branches of the industry, from, first, permitting print designs sold for one price range, to be appear in garments of another range, and second, overproduction of prints, forcing unprofitable liquidation in mid-season.

The chief point of the new policy is the following guarantee which Cheney Bros. offers to the trade:

"We guarantee and pledge that any design in our line sold for any given price range will not be sold by us for use in garments in a lower price range until after Feb. 15, 1932, and not even then if it seems in the best interest of the trade. When the classification of our line is re-arranged after Feb. 15, we again pledge protection on it until the end of the print selling season."

Other points in the policy are: registration of all registerable designs with the Design Protection Association, and selvage-marking every yard of prints to that effect; issuing of Design Association tags with all yardage; restricting initial printing to only small yardage of one color combination at one time, later reprinting in quantities needed for quick shipment.

Supplementing this, Mr. Cheney urged the trade to cooperate by reporting all attempted copying of Cheney designs, and by buying earlier, to avoid heavy output and eventual mid-season liquidation. He also expressed the hope that other broadsilk houses would adopt a similar policy which he said "would mark a turning point for all of us."

New Rayon Prices; Delaware Again Quotes

The rayon market's belief in growing price stability has been increased by the news that Delaware Rayon Co. would resume quotations. This firm made the following statement:

"For a long time we have refrained from publishing a price list because of the market conditions. We are convinced that the present prices of viscose process yarn are at bottom in proportion to cost and there is no reason to expect any further reduction from this level. For this reason we are satisfied to publish the following prices with the assurance that they will remain stable."

Den.	Fil.	1st	2d	Bleach Weave Cones
125	44	$0.90	$0.80	$0.95
150	60	.85	.82	.88
150	44	.75	.72	.78
200	30	.75	.72	.78
300 and coarser	60	.63	.60	.66
150 Unbleached knitting cones		$0.75		

The new price list of the New Bedford Rayon Corp. follows:

Den.	Fil.	1st Qual.	2d Qual.
100	40	$1.00	$.90
150	60	.85	.82
150	40	.75	.72
300	44	.63	.60
450	42	.63	.60

These prices are bright luster, skein form, and effective as of Oct. 23.

The new prices of Skenandoa Rayon Corp., for its 150 denier yarn follow:

Skeins, bleached brighter luster	
150 Den. 30 Fil. 1st	$0.75
150 Den. 30 Fil 2d	.72
Cones, dull luster	
150 Den. 40 Fil. oiled knit	.75
Cones, bright and dull, weaving	
150 Den. 40 Fil unoiled 1st	.75
150 Den. 40 Fil unoiled 2d	.75

◆

Business News

C. G. V. Sjostrom Co. Removes

The C. G. V. Sjostrom Co. has moved its plant, offices and laboratory from 42 Hampden Street to 55 Emery Street, Springfield, Mass.

Chatard & Norris to Represent Homestead Valve in Baltimore

Chatard & Norris, 218 Water Street, Baltimore, Md., have just been appointed exclusive representatives of Homestead Valve Mfg. Co. for the eastern part of Maryland and the District of Columbia.

H. S. Sleicher Joins General Refractories Co.

Harry S. Sleicher, formerly vice-president of the North American Refractories Co., has severed his connection with that company and is now associated with the General Refractories Co. in a sales capacity, with headquarters in the New York office of the latter company.

George W. Moore Co. Joins Link-Belt

The merger of the George W. Moore Co. of Chicago, with H. W. Caldwell & Son Co., a subsidiary of Link-Belt Co., is announced by Alfred Kauffmann, president, Link-Belt Co. The combined units are to be known as the Caldwell-Moore Division, Link-Belt Co.

Max H. Hurd, formerly president of the George W. Moore Co., becomes a vice-president of Link-Belt Co., in charge of the Caldwell-Moore operations. His headquarters will be at 2410 W. 18th Street, Chicago. By the merger Link-Belt Co. acquires an entirely new line of manufacture, Salem elevator buckets, an important specialty of the Moore company.

Seybold Appointed Westinghouse Comptroller

Appointment of Roscoe Seybold as comptroller of the Westinghouse Electric & Mfg. Co. has been announced by Chairman A. W. Robertson. Mr. Seybold, who advances to the position of comptroller from the post of assistant to the president, has been continuously in the service of the Westinghouse company for 24 years.

Change in Bailey Meter Co.'s Southern Offices

Bailey Meter Co. announces the location of sales engineers in two southern cities. M. J. McWhorter, who formerly made his headquarters at Atlanta, Ga., is now located at 1708 Euclid Ave., Charlotte, N. C. Mr. McWhorter continues as manager of the southern territory, and is assisted by J. H. Whittlesey, who has headquarters at 3201 Carlisle Road, Birmingham, Ala.

New District Representatives for National Oil Products Co.

George M. Cunningham has been named by the National Oil Products Co., Harrison, N. J., to represent that company in the St. Louis district. Mr. Cunningham took post graduate courses at Harvard and M.I.T., and joined the Nopco staff last April. C. Albert Mugford, formerly a member of the sales force working from the Harrison (N. J,) office, has been named sales representative for the Albany district.

Robert Gair to Stage Package Style Show at Advertising Club

A package style show showing the trend in modern containers for numerous classes of products will be held at the Advertising Club of New York, Park Avenue at 35th Street, for two weeks beginning Nov. 1. The packages and containers exhibited are the products of the Robert Gair Co., New York. There will be 50 or more examples on exhibition, all selected to show the modern trend in styling packages.

Delagrave Co. to Open Branch at Spartanburg

Delagrave Co., Newark, N. J., a textile engraving concern, recently announced through L. H. Duncan, acting secretary of the Spartanburg (S. C.) Chamber of Commerce, that a branch plant will be established in Spartanburg in the near future. Andrew Stockman, president of Delagrave Co., stated in a telegram to Mr. Duncan that the new plant will employ more than 100 workers. It is understood that Robert Stockman, son of the president, will be placed in direct charge of the Spartanburg unit.

QUOTATIONS

at close of business, Nov. 4, 1931
Prices cover average qualities unless otherwise stated

Cotton Goods

	Nov. 4	Oct. 28	Nov. 5 1930
PRINT CLOTHS			
27 -in., 64x60, 7.60	2⅞c.	2⅞c.	4¼c.
38½-in., 64x60, 5.35	3⅜–3½c.	3½c.	5⅜c.
39 -in., 68x72, 4.75	4–4¼c.	4¼c.	6½c.
39 -in., 72x76, 4.25	4½c.	4⅝–4¾c.	7⅛c.
39 -in., 80x80, 4.00	5⅛–5¼c.	5¼c.	8–8¼c.
BROWN SHEETING			
36-in., 56x60, 4.00	4¼c.	4¼c.	6¼c.
36-in., 48x48, 3.00	4⅝c.	4⅝c.	7¼c.
37-in., 48x48, 4.00	4c.	3⅞–4c.	6c.
PAJAMA CHECKS			
36½-in., 72x80, 4.70	4¼c.	4¼c.	6⅜c
36 -in., 64x60, 5.75	4c.	4c.	5¼c.
MISCELLANEOUS			
Drills, 37-in., 3 yd..	5c.	4⅞c.	7⅛c.
Denims, 2.20	9½c.	9½c.	12½c.
Tickings, 8 oz.	13 c.	13 c.	16 c.
Standard prints	7 c.	7 c.	7⅛c.
Eastern staple ginghams, 27-in.	7½c.	7½c.	8 c.

Cotton Waste

Peeler comber	5¾ – 6
Peeler strips	5¼ – 5¾
Sak. comber	4¾ – 5¼
Choice willowed fly	2½ – 3½
Choice willowed picker	2 – 3
Sak strips	6½ – 7½
Linters (mill run)	1½ – 2½
White spooler (single)	4½ – 4¾

Cotton Yarn

CARDED (Average Quality)
Double Carded 2c.—4c. higeer according to quality

SINGLE SKEINS OR TUBES (Warp Twist)

4s to 8s	$0.14	22s	$0.17½
10s	– .14½	24s	– .18½
12s	– .15	26s	– .19½
16s	– .15½	30s	– .21
20s	–.16½	40s ex. qual.	– .30

TWO-PLY SKEINS AND TUBES

8s-2	$0.14½	26s-2	$0.19
10s-2	– .14½	30s-2	.20 – .20½
12s-2	– .15	36s-2	.25½– .26½
14s-2	– .15½	40s-2	– .28½
16s-2	– .16	40s-hi.brk.	.30 – .31
20s-2	– .17	50s-2	– .36
24s-2	– .18½	60s-2	– .39

SINGLE WARPS

10s	$0.14½	24s	$0.18
12s	– .15	26s	– .19
14s	– .15	30s	– .21½
16s	– .15½	40s.ex.qual.	– .30
20s	– .16½		

TWO-PLY WARPS

8s-2	$0.15	24s-2	$0.18½
10s-2	– .15½	26s-2	– .19½
12s-2	–	30s-2	.20½– .21
14s-2	.16 – .16½	40s-2 ordin.	– .28½
16s-2	.16½– .17	50s-2	– .36
20s-2	.17 – .17½	60s-2	– .39

8s-2 and 4-ply skeins and tubes; tinged, 13-13½; white, 14; waste, 12½

HOSIERY CONES (Frame Spun)

8s	$0.14	22s	$0.17½
10s	14 – .14½	24s	– .18
12s	14½– .15	26s	– .19½
14s	15 – .15½	30s tying	.20 – .20½
16s	15½– .16	30s reg.	– .21½
18s	16 – .16½	30s ex.qual.	– .22½
20s	– .17	40s	– .27½

COMBED PEELER (Average Quality)

TWO-PLY—(Knitting Twist) Cones

20s-2	$0.25 – .26	60s-2	$0.42 – .45
30s-2	.30 – .31	70s-2	.55 – .56
36s-2	.33 – .34	80s-2	.64 – .66
40s-2	.34 – .35	90s-2	.90 – .95
50s-2	.37 – .38	100s-2	1.03 –1.05

WARPS, SKEINS AND CONES

TWO-PLY—(Warp Twist)

20s-2	$0.26	60s-2	$0.42
30s-2	– .31	70s-2	– .55
36s-2	– .34	80s-2	– .63
40s-2	– .35	90s-2	– .93
50s-2	– .38	100s-2	–1.03

SINGLES

12s	$0.20½	30s	$0.28 – .29
14s	– .21	38s	.32 – .33
16s	– .21½	40s	.33 – .34
18s	– .22	50s	– .37
20s	– .23	60s	.45 – .46
24s	.25 – .25½	70s	.55 – .56
28s	.27 – .28	80s	.65 – .66

MERCERIZED CONES—(Combed, Ungassed)

26s-2	$0.41½– .43½	90s-2	$1.05–1.17
30s-2	.42½– .44½	100s-2	1.34–1.49
36s-2	.44 – .46	120s-2	1.70–1.85
40s-2	.45 – .47	30s-2	– .51
45s-2	.46½– .48½	40s-2	– .56
50s-2	.48 – .50	50s	.64– .66
60s-2	.56 – .58	60s	– .71
70s-2	.68 – .70	70s	.82– .84
80s-2	.80 – .82	80s	1.02–1.05

Cotton Prices and Statistics

COTTON STATISTICAL DATA

(Fluctuations of Futures)

	Closed Oct. 29	For Week High	For Week Low	Closed Nov. 3	Net Ch'ge
November	6.52	6.55	6.50	6.39	—.13
December	6.61	6.74	6.55	6.48	—.13
January	6.66	6.81	6.61	6.57	—.09
February	6.72	6.77	6.72	6.64	—.08
March	6.79	6.96	6.73	6.72	—.07
April	6.89	6.95	6.89	6.80	—.09
May	7.00	7.15	6.96	6.90	—.10
June	7.08	7.14	7.08	6.98	—.10
July	7.17	7.34	7.13	7.08	—.09
August	7.26	7.33	7.26	7.16	—.10
September	7.36	7.43	7.36	7.26	—.10
October	....	7.57	7.49	7.33	.....

SPOT FLUCTUATIONS FOR WEEK

	(Middling) New York	New Orleans	Liverpool
Thursday, Oct. 29	6.70	6.47	4.97
Friday, Oct. 30	6.70	6.47	4.99
Saturday, Oct. 31	6.70	6.47	5.05
Monday, Nov. 2	6.70	Holiday	5.09
Tuesday, Nov. 3	Holiday	Holiday	....
Wednesday, Nov. 4	6.55	6.50	5.07

FOREIGN COTTONS

Egyptian Cotton

Alexandria Exchange, Nov. 3		Change
Nov. Sak	13.75	+0.41
Dec. uppers	10.23	+0.71

Nov.-Dec. Shipment c. i. f. Boston
(Tariff not included)

Fully good fair Sak	13.30
Fully good fair to good Uppers	10.35

(By Anderson, Clayton & Co.)

Foreign cottons	F. O. B. New York, Cents
Peruvian Tanguis Strict Middling	17
Peruvian Pima No. 1	16½
Peruvian Moderate Rough	11
Peruvian Full Rough	17*
China Tientsin No. 1	9½
India Rough	7 to 9
India Smooth	6½ to 8

(By Bruns-Nordeman Co.)

MOVEMENT INTO SIGHT

	This Year	Last Year	Year Before Last
Week	810,000	729,000	886,000
Season	*5,589,000	6,575,000	7,033,000

*81,000 added

WORLD VISIBLE SUPPLY

	Today	One Year Ago
Interior towns and ports of U.S.*	†6,098,000	5,148,000
Afloat to and at ports of Europe	1,197,000	1,482,000
Afloat to and at ports of Orient	534 000	321 000
Total	7 829,000	6,951,000
Change during week	†543,000 Increase	406,000 Increase

*Includes afloat to New York.
†57 000 added Port Stock.

FORWARDINGS TO MILLS OF WORLD

	This Year Week	This Year Season	Last Year Week	Last Year Season
No.States U.S.	19 000	195,000	15,000	170,000
So.States,U.S.	157,000	*1,201,000	158,000	1,151,000
Total U.S.	176,000	*1,396,000	173,000	1,321,000
Great Britain	26,000	252,000	22,000	213,000
Continent	59,000	707,000	86,000	860,000
Orient	58,000	543,000	33,000	207,000
Canada and other America	5,000	42,000	9,000	60,000
Total foreign countries	148,000	1,544,000	150,000	1,340,000
World total	324,000	*2,940,000	323,000	2,661,000

*24,000 added United States

EXPORTS FROM UNITED STATES

Total	330,000	1,644,000	182,000	2,169,000

AVERAGE PRICE NOV.-DEC. SHIPMENT
HARD WESTERN COTTON
F.o.b. New England

	Middling	St. Middling
1 1/16-in	8½–9c.	9⅛– 9½c.
1⅛-in	9½–10c.	10 –10½c.
1—in	10¾–11c.	11½–11¾c.
1¼-in	14 –15½c.	15 –16½c.

Basis on New York, December, 6.58.

SPOT FLUCTUATIONS AND STOCKS

Markets	Oct. 28	Nov. 4	Sales	Stocks This Week	Stocks This Year
Galveston	6.50	6.30	4,898	833,096	602,660
New Orleans	6.47	6.50	22,335	674,180	609,189
Mobile	6.05	6.00	2,477	252,338	138,638
Savannah	6.36	6.23	1,923	364,160	279,125
Norfolk	6.63	6.44	773	64,997	86,521
New York	6.70	6.55	3,900	230,906	229,960
Augusta	6.44	6.25	917	127,461	140,641
Memphis	5.90	5.70	69,613	395,039	343,830
St. Louis	6.50	6.35	....	....	2,117
Houston	6.40	6.30	39,194	1,488,050	1,412,231
Dallas	6.05	5.95	77,955	44,162	35,156

DIFFERENCES ON AND OFF MIDDLING
WHITE GRADES

	Dallas	Memphis	Montgomery	Augusta	Average
M.F	0.65†	1.00†	0.75†	0.75†	0.75†
S.G.M	.50†	.75†	.65†	.63†	.61†
G.M	.40†	.50†	.55†	.44†	.44†
S.M	.25†	.20†	.25†	.25†	.26†
S.L.M	.40*	.40*	.40*	.38*	.39*
L.M	.90*	.90*	.90*	.88*	.87*
S.G.O.**	1.40*	1.10*	1.40*	1.38*	1.28*
G.O	1.90*	1.20*	1.90*	1.88*	1.70*
YELLOW TINGED					
G.M	0.30*	0.25*	0.40*	0.50*	0.39*
S.M	.55*	.40*	.65*	.75*	.62*
M.**	.90*	.50*	.90*	.88*	.85*
S.L.M	1.40*	.90*	1.40*	1.38*	1.27*
L.M	1.90*	1.40*	1.90*	1.88*	1.73*
YELLOW STAINED					
G.M	0.90*	0.60*	0.90*	0.90*	0.86*
S.M.**	1.15*	1.10*	1.15*	1.25*	1.18*
M.**	1.90*	1.35*	1.75*	1.90*	1.71*
BLUE STAINED					
G.M.**	0.90*	0.35*	0.90*	0.90*	0.84*
S.M.**	1.40*	.85*	1.40*	1.40*	1.26*
M.**	1.90*	1.10*	1.90*	1.90*	1.70*

**Grades not deliverable on contract.
*Off Middling.

Wool

OHIO, PENNSYLVANIA AND WEST VIRGINIA (IN GREASE)

Fine delne.	$0.24 –$0.25	¾ blood	$0.23 –0.24
Fine clthg.	.20 – .22	¼ blood	.21 – .21½
½ blood	.23½– .24		

TEXAS AND CALIFORNIA (CLEAN BASIS)

Texas, 12 months	$0.57 –0.59
California, Northern	.48 – .50

PULLED—EASTERN (CLEAN BASIS)

A.A.	$0.62 –$0.64	B-Super	$0.45 –0.47
A-Super	.49 – .52	C-Super	.40 – .41

MONTANA, IDAHO AND WYOMING (CLEAN BASIS)

Staple fine	$0.58 –0.60
Staple ¾ bld.	.53 – .55
Fine and fine medium	.54 – .56
½ blood	.47 – .50
¼ blood	.40 – .43

MOHAIR—DOMESTIC

Best carding	$0.23 –0.25
Best combing	.31 – .33

MOHAIR FOREIGN (IN BOND)

Turkey fair, average	$0.17 –0.21
Cape firsts	.18 – .21

FOREIGN CLOTHING AND COMBING (CLEAN BASIS IN BOND)

Australia:	
70s	$0.45 –0.47
64s	.38 – .40
58s-60s	.33 – .35
(IN GREASE)	
Montevideo:	
58s-60s	$0.16 –0.17
56s	.15 – .16
50s	.14 – .15
Buenos Aires:	
4s, 40-44s	$0.11 –0.12
5s, 36-40s	.11 – .12

FOREIGN CARPET (GREASE BASIS IN BOND)

Aleppo washed	$0.23 –0.25
China: Combing No. 1	.13 – .14
China Filling Fleece	.12 – .14
Szechuen ass't	.12 – .14
Cordova	.14 – .15
Scotch black face	.15 – .17
East India: Kandahar	.17 – .19
Vican'r	.23 – .25
Joria	.23 – .24

Worsted Yarns

ENGLISH SYSTEM WEAVING

2-20s 36s	$0.75 –0.77½
2-24s 40s	– .80
2-26s 44s	.82½– .85
2-28s 46s	– .87½
2-30s 48s	.92½– .91
2-32s 50s	.97½–1.00
2-30s 64s fancy mixes	1.35 –1.37½
(Single yarns 5c. less than above)	
2-36s 58s	$1.10 –1.12½
2-40s, 60s	–1.20
2-40s, 64s	1.27½–1.32½
2-50s, 66s	1.40 –1.45
2-60s, 70s	1.82½–1.85

ENGLISH SYSTEM KNITTING

2-20s, 44s in oil	$0.75 –0.77½
2-20s, 48s in oil	– .80
2-20s, 50s in oil	.77½– .82½
2-20s, 56s in oil	.92½– .95
2-20s, 60s in oil	–1.05
2-20s, 64s in oil	1.12½–1.15
1-18s, 48s dyed	.90 – .92½
1-18s, 50s dyed	.92½– .95
(Oil yarns 17½c. less)	

FRENCH SYSTEM

1-20s, 58s	$1.00 –1.05
1-20s, 60s	1.05 –1.07½
1-18s, 64s, dyed	1.30 –1.32½
1-26s, 64s	1.67½–1.10
1-30s, 60s, Warp	1.20 –1.22½
1-30s, 64s, Warp	1.20 –1.22½
2-30s, 64s, Fancy mixes	1.40 –1.42½
2-40s, 64s, Zephyrs	1.32½–1.35
1-50s, 66s	1.47½–1.50
2-50s, 66s	1.50 –1.55
1-60s, 70s	1.82½–1.85
2-60s, 70s	1.90 –1.95

FRENCH SPUN MERINO WHITE

1-30s, 50-50-58s on cops	$0.95 –1.00
1-40s, 50-50-60s on cops	1.10 –1.15
1-40s, 50-50-64s on cops	1.12½–1.15
1-40s, 50-50-64s Australian cops	1.20 –1.25

Underwear mixes, 3 to 5c., Solid color, 35c. additional.

New York Top Futures

	Closed Oct. 28	For Week High	For Week Low	Closed Nov. 2	Net Ch'ge
October	....	....	....	....	....
November	68.00	69.00	68.00	69.00	+1.00
December	68.00	69.00	68.00	68.00	....
January	68.00	68.00	67.50	67.50	—0.50
February	68.00	68.00	67.50	67.50	—0.50
March	68.00	68.20	67.40	67.40	—0.60
April	67.50	68.00	67.40	67.40	—0.10
May	67.50	68.00	67.40	67.40	—0.10
June	67.50	67.50	67.00	67.00	—0.50
July	67.50	67.50	67.00	67.00	—0.50
August	67.00	67.00	66.50	66.50	—0.50
September	67.00	67.00	66.50	66.50	—0.50

Tops and Noils

TOPS—BOSTON

Fine (64-66 2s)	$0.80 –0.83
Half-blood (60-62s)	73 – .76
High ¾ blood (58s)	.67 – .69
Aver. ¾ blood (56s)	.61 – .64
Low ¾ blood	.58 – .60
High ½ blood (50s)	.53 – .55
46s S. A. and N. Z	.61 – .63
44s S. A. and N. Z	.56 – .58
40s S. A. and N. Z	.50 – .52

TOPS—BRADFORD, ENG. (OCT. 30)

Fine (70s)	27½d	¾ bld. (56s)	18 d
Fine (64s)	26 d	½ bld. (50s)	14 d
¾ bld. (60s)	24 d	Cross-bred (46s)	11 d

NOILS—BOSTON

Fine	$0.33–$0.35	High ½ bld.	$0.27 –$0.29
Half-bld	.32 – .33	Low noils	.23 – .25
Aver. ¾ bld.	.31 – .32	Medium colored	.22 – .24
Fine colored	.30 – .31		

Wool Substitutes

WOOL WASTE

Lap, fine white	$0.58 – .61
Lap, fine colored	.45 – .49
Hard ends, fine white	.45 – .47
Hard ends, ¾ blood white	.31 – .33
Hard ends, fine colored	.18 – .20
Hard ends, medium colored	.13 – .15
Card, fine white	.21 – .23
Burr, fine Carbonizing	.25 – .28

OLD WOOLEN RAGS (GRADED FOR MFRS.)

Merinos, coarse light	$0.05 –0.05½
Merinos, fine dark	.03½– .04
Merinos, fine light	.10 – .11
Serges, blue	.05½– .06
Serges, black	.05½– .06
Serges, red	.08 – .09
Knit, white	.20 – .21
Knit, red	.10 – .11
Knit, light hoods	.10½– .11½
Worsted, light	.05 – .05½
Worsted, blue	.05½– .06
Worsted, black	.06 – .06½

Silk Yarns

THROWN SILK (60 day basis)

	Nominal
Japan organzine, 2 thd. spec. gd. XX sk 85%	$3.55
Japan organzine 2 thd. grand sk. 83%	3.40
Japan organzine, 2 thd. sp. crack. sk. 81%	3.30
Japan crepe, 3 thd. gd. XX bob. 83%	3.40
Japan crepe, 3 thd. sp. crack. bob. 81%	3.30
Japan grenadine, 4 thd. sp. grand singles, 87%	4.60
Japan grenadine, 3 thd. 90%	5.40
Canton crepe, 3 and 4 thd. 14/16 on bobbins	2.30
Hosiery tram, 3 thd. Japan 90%	4.25
Hosiery tram, 5 thd. Japan, 85%	3.30
Hosiery tram, crack XX 78%	3.00

SPUN SILK YARNS (Terms: net 30)

40/2	$3.10	60/2	$3.45
54/2	3.30	62/1	2.35

Raw Silk

(60 Day Terms. Spot Goods)

	13/15 White	20/22 White	20/22 Yellow
Super Grand, 87%	$2.95	$2.40	$2.40
Special Grand, 85%	2.70	2.35	2.35
Grand XX, 83%	2.55	2.30	2.30
Special Crack, 81%	2.45	2.25	2.25
Crack XX, 78%	2.35	2.20	2.15
Extra Extra, 73%	2.30	....	....
Best Extra, 68%	2.25	....	....

Canton filature, new style, 14/16	$1.95
Canton filature, new style, 20/22	1.85
Tussah filature, 8 cocoon	1.10

NATIONAL RAW SILK EXCHANGE

	Close Oct. 28	For the Week High	For the Week Low	Close Nov. 2	Net Ch'ge
November	2.24	2.24	2.18	2.23	—.01
December	2.22	2.23	2.18	2.22	....
January	2.24	2.24	2.19	2.23	—.01
February	2.24	2.24	2.19	2.23	—.01
March	2.24	2.24	2.19	2.23	—.01
April	2.24	2.24	2.19	2.23	—.01
May	2.23	2.24	2.18	2.23	....
June	2.24	2.23	2.18	2.23	—.01

Total number of bales, 6,610. Total approximate value $2,021,999. Trading unit crack XX 13/15 white 78%.

Domestic Rayon

VISCOSE PROCESS

Denier	Filament	First	Second
50	12-18	$1.35	$1.25
75	18-30	1.20	.90
100	18-40	1.00	.90
125	36-50	.90	.80
150	30	.70	.67
150	24-40	.75	.72
150	60	.85	.82
150	75-90	.85	.82
170	24-27	.75	.72
170	60	.85	.82
200	30-42	75	.72
300	42-62	.63	.60
450	54-72	.63	.60
600	72-96	.63	.60
900	100-144	.63	60

NITRO-CELLULOSE PROCESS

Denier	First Qual.	Second Qual.	Denier	First Qual.	Second Qual
75	$1.35	$1.25	150	$0.75	$0.72
100	1.05	.95	175	.75	.72
125	.95	85			

CUPRAMMONIUM PROCESS

Denier	Filament	Price	Denier	Filament	Price
15	24	$3.10	75	60	$1.30
25	24	2.85	80	60	1.30
30	24	2.60	100	75	1.10
40	30	1.70	120	90	1.00
52	30	1.50	150	112	.90
65	45	1.40	180	135	.87

ACETATE PROCESS

Denier	Price	Denier	Price
45	$1.60	125	$1.10
60	1.50	150	1.00
75	1.40	300	1.00
100	1.30		

Rayon Waste

Open bleached waste	$0.13–$0.14
Open unbleached waste	.10½
Bleached thread waste (mfs.)	.09
Bleached thread waste (misc.)	.06– .07
Colored thread waste	.03– .04
Colored clips	.03– .04

CONVERTED RAYON WASTE

Bleached tops	$0.30–0.32½
Unbleached tops	.27– .28
Bleached noils	.11
Unbleached noils	.09½
Bleached garnetts	.12
Unbleached garnetts	.13
Colored garnetts	.10– .11

Silk Waste

Kibizzo Kakai Grand XX	$0.50
Kibizzo Kakai Triple Extra	.44
Frison Grand Double	.49
Pierced Cocoons	.50

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$

Inability to balance and control flow of production (production slowed by one or more lagging machines)

$

Inability to provide for variances in the number and skill of operators

$

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$

Machines in progressive operations not properly synchronized

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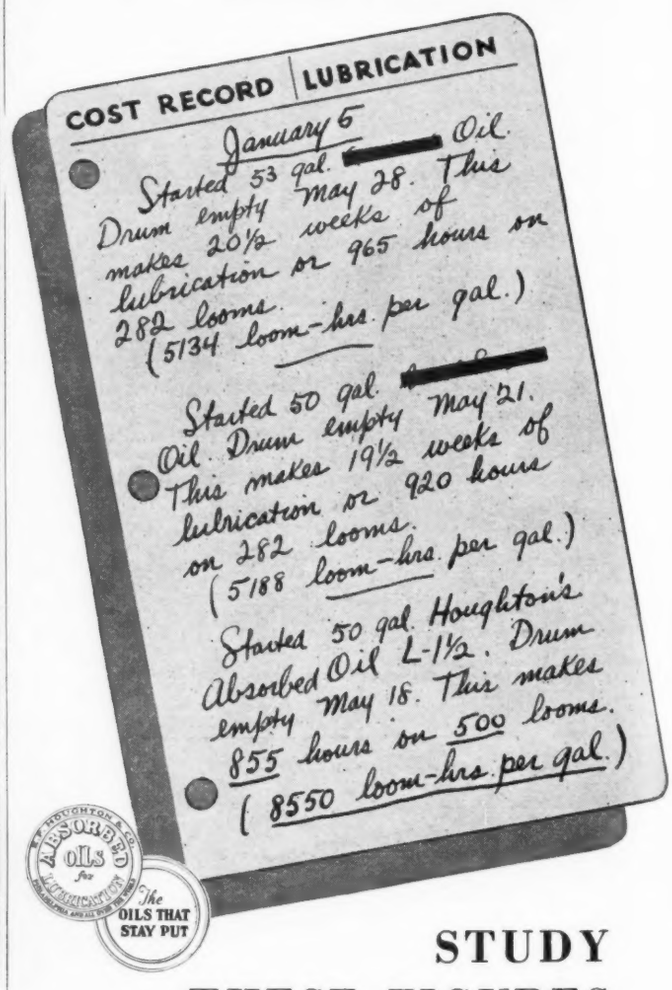
COST RECORD | LUBRICATION
January 6
Started 53 gal. [redacted] Oil. Drum empty May 28. This makes 20½ weeks of lubrication or 965 hours on 282 looms.
(5134 loom-hrs. per gal.)
Started 50 gal. [redacted] Oil. Drum empty May 21. This makes 19½ weeks of lubrication or 920 hours on 282 looms.
(5188 loom-hrs. per gal.)
Started 50 gal. Houghton's Absorbed Oil L-1½. Drum empty May 18. This makes 855 hours on 500 looms.
(8550 loom-hrs. per gal.)
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The OILS THAT STAY PUT

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